

ELECTRIC REFRIGERATION NEWS

The business newspaper of the electric refrigeration industry

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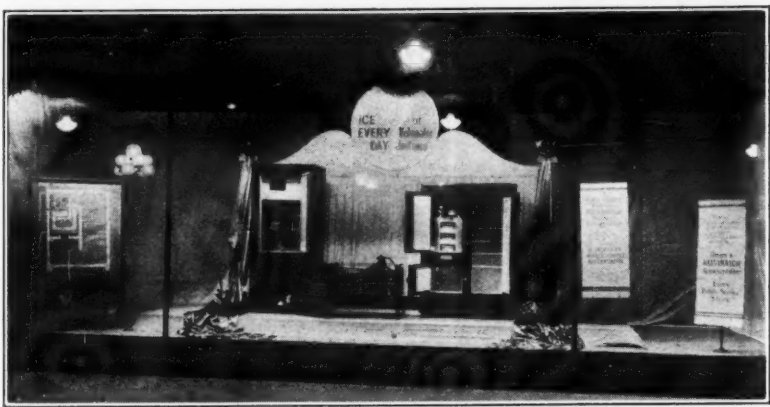
Electric Refrigeration Displays Lack Variety at Present

Arctic Scenes Now Predominate—Advertisements in National Magazines Suggest New Ideas

By Ernest A. Dench

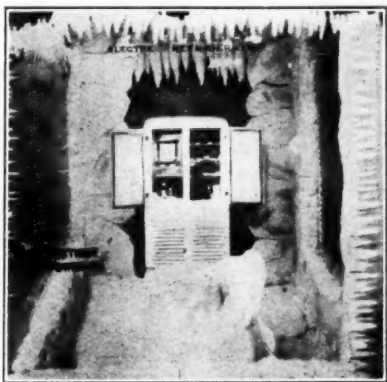
It is always interesting to watch the pioneer window displays of a merchandise innovation. In the radio field the mechanical genius held sway for a long time, until the stores started selling home entertainment rather than technical skill. There is not yet much variety in electric refrigeration displays, which are mainly of a single type—the spectacular Arctic environment.

Whether this is the right kind of selling story to tell, only time will prove, for the electric refrigerator is still a sufficient novelty to attract the masses, no matter how it is displayed. Even with this wintry weather setting, there are variations of the same, and ample scope for the incorporation of selling talk via the showcard route, as the following will suggest:



The Icy Prison

The display, as presented by Mr. F. Mellon of the Connecticut Light and Power Company, Waterbury, Conn., created the illusion of an electric refrigerator encased in ice. Except for an opening large enough to accommodate the model, the background was a beaver board cut-out representing snow-coated cakes of ice, fringed with long icicles. Even the plate glass frontage, from the inside, was boarded with icicles. Icebergs were about the floor, one in the foreground being occupied by a polar bear cut-out. These icebergs rested on a cotton batting and mica snow base. The lighting scheme is important in giving a suggestion of coldness, this being accomplished with blue color caps on all the lights.



The Aurora Borealis

The two displays which are next in line for review hail from the Public Service Electric and Gas Company, Newark, New Jersey. They were arranged at different times during 1926 by Walter J. Bender. The first display had a scenic background, the highlight of which was the Aurora Borealis, flanked by Arctic expanses of snow and ice. Scenic "wings" gave depth to the setting, especially as a ship was imprisoned in the ice and polar bears roamed about the bergs. At the middle came a large electric refrigerator, the open doors of which revealed the mechanism in one compartment; and tempting foods in the other sections. At the front left stood a large

from cold weather climes; any "atmosphere" was in the minority—just enough, in fact, for the concentrated merchandising appeal that was made. The equipment necessary for electric refrigeration was shown at the centre rear between two units, one a small refrigerator, the other of larger capacity. Back of this grouped unit was a long, blue curtain-draped panel, with gracefully curved white woodwork at the sides and top. Wedged between the sloping hills at the top of the panel was a white circle lettered in blue with "Ice Every Day Or Kelvinator Just Once." A large silver question mark divided the sentence. Midnight blue taffeta drapes were rosetted at the top of both side columns and trailed across the floor to the foreground. Large framed signs and diagrams at the sides took care of the advantages of this particular make of electric refrigerator.

Other Display Themes to Tackle

To introduce more variety in electric refrigeration displays, we suggest obtaining "hunches" from the advertising of the electric refrigerator companies in the national magazines. One piece of copy before us now shows a wife in the kitchen proudly showing some appetizing frozen desserts to her admiring husband. The text hints at the great number of ice-cold refreshments which the hostess can serve to her guests.

If such an advertisement were pictured in the show window, it would be rich in human interest, for the housewife is more interested in things which concern her, rather than remote references to the Arctic regions, to which she never expects to go.

Visualize a party—be it Valentine's Day, St. Patrick's Day, or some other timely occasion—with the table appropriately decorated and frozen delicacies (of the papier mache or composition kind, such as used by confectioners and grocers) and your window will carry more selling punch.

Another setting might be a sickroom scene, keeping down the high temperature of a patient with liberal applications of ice. A third idea concerns the poker party in session on a hot night and a constant demand for ice water and iced drinks. Then there is the problem of un-



card, on which were mounted photographic views of representative New Jersey homes in which electric refrigeration has been installed. These photographs were captioned, of course. The companion card at the other end bore specimens of electric refrigeration advertising from the national magazines.

The second trim broke away entirely

expected company or a surprise party and electric refrigeration meeting these heavy refreshment demands.

We throw out these "leads" with the possibility that they will fall on fertile soil, so that, when the electric refrigeration is no longer a novelty, there will be no falling off of consumer interest in electric refrigeration displays.

Notice

Effective January 1, 1927, the subscription price of ELECTRIC REFRIGERATION NEWS will be increased to 75 cents per year, two years for \$1.00.

Until that time you are privileged to take advantage of the special introductory rate of only 50 cents per year, three years for \$1.00.

Use coupon in the lower left-hand corner of page 8. Fill in the blank and mail today. How can you invest one dollar to better advantage?

PROMOTIONS ANNOUNCED IN DELCO ORGANIZATION

H. W. Prior Now General Sales Manager of Frigidaire

Changes in the Delco-Light company, by which three promotions are made, were announced November 24 by E. G. Biechler, president and general manager of this company and the Frigidaire corporation.

H. W. Prior has been made general sales manager of Frigidaire corporation and will be the executive head of the sales operations, with J. A. Harlan and C. A. Copp continuing as sales managers of the household and commercial divisions respectively of the electric refrigerator business.

W. R. Huber becomes sales manager of the Delco-Light division, and J. A. Smith, assistant sales manager of this division, according to the announcement.

By the reorganization various departmental activities are better correlated and sales efforts are brought under one head, it is said.

Mr. Prior became a member of the Delco-Light organization in 1917, and has served as assistant treasurer, assistant sales manager and sales manager, being appointed to the latter position in 1924. He has a wide acquaintance with the Delco-Light and Frigidaire field organization and is an organizer and convention speaker of outstanding ability.

The new Delco-Light sales manager, Mr. Huber, started in the sales promotion department of the company in 1919. He left for a time to join the General Motors Export company, in New York, returning in 1921. He was made assistant sales manager in 1924.

His assistant, Mr. Smith, started in the Delco-Light service department as a road man. He later was transferred to the engineering department and then to sales. He has been sales supervisor of the pump division for some time, and in addition Delco-Light zone supervisor for the middle west district. G. F. Jenkins will succeed him as zone supervisor.

"General Motors is expending \$20,000,000 in enlargement of our factories and is giving us facilities to manufacture Frigidaires at the rate of 50,000 a month and Delco-Light products in larger volume than ever before," Mr. Biechler said. These changes have been made with an eye to developing the most satisfactory sales organization we can perfect to handle the immense business for which we are preparing in 1927."

Little Becomes Chief Engineer for Marmon

Thos. J. Little, Jr., vice-president in charge of engineering of Copeland Products, Inc., has been appointed chief engineer of the Marmon Automobile Company, automobile manufacturers, Indianapolis, Ind. He will retain his interest in the Copeland Company. Glenn Muffy has succeeded him as chief engineer of Copeland.

McCann Secures Servel Account

H. K. McCann Company, New York advertising agency, has secured the account of the Servel Corporation.

No Back Issues

Numerous requests are being received for back issues of ELECTRIC REFRIGERATION NEWS. We regret to announce that none are available. It will be necessary in all cases to start subscriptions with the next issue following the receipt of order.

Electric Refrigeration Advertising Increases Demand for Ice Boxes

Educational Publicity of Both Branches of Refrigeration Industry Proving Mutually Beneficial

More than \$5,000,000 has been expended in advertising electric refrigeration during 1926 and more than \$10,000,000 will be expended for the same purpose during 1927, according to statements made by Charles Van Keuren, director, department of public relations of the Electric Refrigeration Corporation, in an address on "Cooperation Between the Ice and Electric Refrigeration Industries" delivered before the convention of the National Association of Ice Industries held in Chicago, November 12, 1926. The \$5,000,000 spent in 1926 more than doubled the sales of electric refrigerators, he said, and according to other speakers at the convention, it also materially increased the sales of ice during the year, admittedly a bad weather season for ice.

In his address, Mr. Van Keuren quoted from an article, which he prepared and which was published in *The Wall Street Journal*, June 18, 1926:

"Cooperation will result in many benefits to both industries. First, the advertising of both electric and ice manufacturers will educate the public to the needs of refrigeration in the home and store; second, public health will be benefited by widespread knowledge that the bacterial growth is arrested and checked by the use of low temperatures in food preservation, thus preventing disease; third, it will lessen sales resistance for electric machines and ice to the benefit of both; fourth, public confidence and good-will will be built up, resulting in an increase in consumers' acceptance of their products; fifth, both industries will show larger earnings and probably bigger dividends; sixth, an era of good-will will be inaugurated in the refrigeration industry not only of great benefit to itself, but all the people of the United States.

According to figures furnished by the National Association of Ice Industries, more than 1,200,000 ice refrigerators were manufactured and sold during 1925, but as yet only 35.8 per cent of the 26,000,000 homes in the United States have any kind of receptacles for ice, even during July. Figuring yearly replacement on a 10 per cent basis, Mr. Van Keuren estimated that the demand should amount to approximately 1,000,000 per year, in addition to a normal yearly demand for 500,000 new ice refrigerators.

Predicts Demand for 2,000,000 Ice Refrigerators in 1927

"But 1927 will not be a normal year in its demand for ice refrigerators," he predicted. "The refrigerator manufacturers of the United States will be called upon to supply next year 2,000,000 new ice refrigerators. Prepare for your biggest year in 1927 regardless of good or bad weather, for you will have to supply a demand for ice you have never experienced before."

Quoting further from the article previously mentioned, Mr. Van Keuren said: "Figures on the standing today of the two affiliated branches of refrigeration prove the overshadowing importance of cooperation. A recent survey shows that the electric refrigeration industry, producing the small household and commercial automatic electric machines, has at this time an invested capital of \$125,000,000; it has allied capital of \$500,000,000 and it is backed by the combined capital of the electric light and power companies of the United States, amounting to more than \$7,000,000,000.

Leading Executives of Both Industries Want Cooperation

"From the latest reports from the leading automatic electric machine manufacturers, it is estimated their net earnings for 1926 will be in excess of \$15,000,000. While it is hard to get the exact figures, the best authorities agreed that the ice industry will do in 1926 a gross business of \$300,000,000 and the net earnings will be more than \$30,000,000.

"The chief executives of the electric refrigeration and the ice industries, men of broad vision, will not tolerate antagonism, but foster cooperation between them. Both have great potential sales possibilities and large invested capital interests to consider."

Error in Coldak Announcement

In the November 20 issue an error was made in stating that A. P. de Saas, vice-president of the Coldak Corporation, which concern recently completed the purchase of the Alaska Refrigerator Company, had been named president of the combined organization. Mr. de Saas is now president of the Alaska Refrigerator Company, while J. H. Pardee continues as president of the Coldak Corporation.

Polaris Absorbs Universe Company

Announcement has been made that the Polaris Electric Refrigerator Co. of Chicago and Logansport, Ind., has taken over the Universe Corporation.

Howard R. Lukens general manager Welsbach electric refrigeration



Sidney Mason, president of the Welsbach Company, Gloucester City, N. J., announces the appointment of Howard R. Lukens as general manager, refrigeration. Mr. Lukens is a graduate of Indiana University and later took a law degree at the same institution. He is well known in the refrigerator and electric refrigeration industry, having been associated with the Kelvinator Corporation as commercial sales manager and with General Necessities Corporation as general sales manager. Mr. Lukens will make his headquarters at Gloucester City.

ELECTRIC REFRIGERATOR GIVEN TO QUEEN MARIE

Starts New Giant Turbine of New York Edison Company

Queen Marie of Rumania was given an electric refrigerator and other electric appliances when she appeared as honor guest of the New York Edison Company November 23. The Queen pressed the button that officially started the 100,000 horsepower turbine of the New East River Station. This occasion was the last public act of Her Majesty in this country. The presentation of electric gifts was made by Arthur Williams, vice-president of the company.

Testimonial Dinner Given to Alex Dow

Over 400 business and professional men attended a testimonial dinner in honor of Alex Dow, president of the Detroit Edison Co., at the Book-Cadillac Hotel, Detroit, Saturday night, December 4. The dinner was sponsored by the Detroit Engineering Society, of which Mr. Dow is a charter member and past president, and the Detroit Sections of the American Society of Civil Engineers, the American Society of Mechanical Engineers and the American Institute of Electrical Engineers.

Mr. Dow has long been a leader among the public utility executives of the country. His characteristic habit of delving into the fundamentals of every central station problem has been shown during the past year in connection with electric refrigeration. His views on the service problem, published in a previous issue of ELECTRIC REFRIGERATION NEWS represent the most definite and practical statement of the central station's responsibility and ability to give assistance which has come to our attention.

C. W. Stone, manager of the central station department of the General Electric Company and in charge of electric refrigeration activities of the company, took a prominent part in the dinner program by listing Mr. Dow's contributions to the field of electrical engineering.

Earnshaw Moves to Larger Quarters

The Earnshaw Mfg. Co. of Philadelphia, manufacturers of the Frostic electric refrigerator, has recently moved into new quarters in the South Plant of the New York Ship Building Company at Camden, N. J. The building is of the most modern type with 50,000 square feet of floor space under a single roof without posts or obstructions.

STRONG ARGUMENT FOR TIME PAYMENTS

Raskob Says Consumers' Credit Brings New Kind of Self Respect

John J. Raskob, chairman of the finance committee of the General Motors Corporation, in an address at a meeting of the Academy of Political Science held in New York, November 17, defended installment buying. While his remarks pertained largely to the automobile business, the following excerpts are equally applicable to electric refrigeration:

"One of the strongest arguments for granting consumers' credit is that it establishes a new kind of self-respect," he said. "A man may be accustomed to spend all he gets and have nothing to show for it; he enters into an installment contract and, still spending all he gets, he now has something to show for it."

"It is said that in certain parts of the country workmen formerly could earn wages enough to live on their accustomed scale by working only part of their time, so that after the fourth or fifth day of the week they would quit and take holidays. Now this has been changed, for with obligations under the installment plan they find themselves in need of an income—an income to pay for the articles they have undertaken to buy—which articles tend to bring them to a higher scale of living. Therefore the labor situation has been definitely improved through the installment plan."

"While the development of consumers' credit is no cure-all for industrial or economic ills, a higher rate of consumption of goods with its attendant higher rate of employment and enjoyment is a great stabilizer of national prosperity. Consumption requires production, production requires work, work demands wages, wages mean consumption, and so the circle of prosperity is completed."

"When severe critics state that installment buying results in conditions akin to slavery because of the debt contracted, it must be remembered that happy employment is not slavery. There is no greater happiness or contentment than that which comes from labor which has its incentive in a desire for better things for those we love."

Absopure Has House Organ

The first issue of "Absopure Refrigerator Messenger" was issued by the General Necessities Corp., Detroit, under date of November 15. The leading article, entitled "A Quarter Century of Experience in Household Refrigeration," traces the history of the General Necessities Corporation from the organization of the Peoples Ice Company in 1902 to the present date. In 1906 it built the first ice manufacturing plant in Michigan. In July of that year it made and sold the first manufactured ice seen in Detroit. In 1906 the name "Absopure" was originated by the president, David A. Brown. In 1916 the name of the company was changed to the General Necessities Corporation.

Portland Association Active

W. D. McElhinny, vice-president of the Copeland Sales Co., who has just returned to Detroit from a trip to the Pacific Coast, reports that the Electric Refrigeration Trades Association of Portland, Oregon, is actively carrying forward a co-operative movement among the local distributors and dealers. The group meets every second week and has accomplished a great deal in developing cordial relations. An important educational activity consists of a radio program every Sunday evening. C. C. Crawford, of the Portland Electric Power Company, is president of the association.

Takes the Air Route

F. B. Riley, who boasts the proud title of "technical editor" of ELECTRIC REFRIGERATION NEWS, has returned from a trip during which he spent nine hours and traveled nearly 1000 miles in airplanes operating between Philadelphia, Washington, Norfolk and other cities. While in Washington he visited Harris E. Dexter, chief of the electrical division of the Bureau of Foreign and Domestic Commerce, with whom he is collaborating on an article dealing with commercial refrigeration which will appear soon in this publication.

No Time to Read?

Thomas A. Edison recently said that he reads regularly fifty-two trade journals, the leading business newspapers, and a varied number of books every month. As busy as he is, he takes time to read. So does every other man who does things. The right kind of business reading sharpens our thinking. It stimulates our imagination. It broadens our vision. It opens new avenues of information. Reading will never take the place of doing, but it enables us to travel twice as far with half the effort.—Sales Management.

Harry Seick
general sales
manager of
Nizer Corp.



Twelve car loads of ice cream cabinets in one order, secured by Harry Seick, general sales manager of the Nizer Corporation, during the convention of ice cream manufacturers recently held in Detroit, put Harry "up in the clouds," according to reports by Gordon Muir, advertising manager of the company. But Gordon himself admits being "up in the air" for an entirely different cause. Being unable to obtain billboard space in the vicinity of the convention, Muir rushed out and bought a lot of big gold and blue balloons, painted "Nizer" on them in letters a yard high, and hung them in the surrounding atmosphere at various strategic points. All went well until somebody discovered that the balloons made fine targets for a .22 rifle. The balloons came down and Gordon went up.

FROM OTHER PUBLICATIONS

Articles on Electric Refrigeration and Related Subjects

"Charging for Service on Appliances—Fear of Effect on Public Relations—What the Public Really Thinks—An Issue That Cannot Be Avoided." By G. M. Dwelley, sales manager, Kelvinator Corporation, Detroit.—*Electrical World*, Nov. 20, 1926.

"The question of servicing domestic appliances still remains a problem to many central station sales managers. Should this service be given free, or should a charge be made and how much?" Mr. Dwelley believes that the central station should charge for labor and material rendered at the going rate for labor and the list price for material. He asserts that no good will result from a timid policy and that the public is accustomed to paying for repairs on everything else. In the article he gives numerous examples to show the public's acceptance of service charges and points out the danger of establishing a precedent that will prove a boom-rang later.

Commercial Electric Refrigeration Sales Field Is Large and Still Growing

Manufacturers regard the market to be world-wide. Development of the ice cream field; instances of application of electrical units in many modern enterprises and distribution problems discussed.

"As in the case of domestic electric refrigeration, proper installation of commercial units bears essentially upon their efficient operation and maintenance and thus has a direct relation to sales; hence the importance of the installation and service manuals provided by most manufacturers. For example, one such manual, generously illustrated with diagrams, opens with general information about the use of certain terms, like 'machine,' as applied to compressor, condenser, and motor all mounted on a common base. This introductory information also explains the factory's method of shipping."—*Electrical Record*, Dec., 1926.

"Experiments in Rural Electrification Show Progress in New England—The scope, conditions and some of the results of New Hampshire's scientific study of the problems of electricity as the modern 'hired man' on various poultry, dairy and fruit farms." By F. A. Westbrook.

"The study of rural electrification which is being carried on under the auspices of the National Committee on the Relation of Electricity to Agriculture has been in progress in New England for more than a year. New Hampshire was selected as a state which is typical of New England conditions, and the project is being directed by the New Hampshire Agricultural Experiment Station of the University of New Hampshire in cooperation with its mechanical and electrical engineering departments. J. C. Kendall is director of the station and W. T. Ackerman, one of its staff, is project leader and engineer of the experiment."

"The work is being done under the auspices of a committee representative of the National Committee and of New England and including F. A. Belden, chairman, president of the New England Division of the N. E. L. A., John G. Winant, Governor of New Hampshire, the director of the experiment station, the president of the Farm Bureau Federation, the master of the State Grange, the leader of the University Extension Service, two farm owners, the professor of electrical engineering and the manager of the Keene Gas and Electric Co."

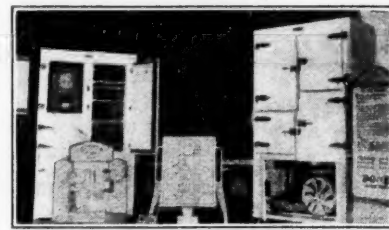
"The project is being financed by contributions from power and utility companies which are members of the New England Division of the N. E. L. A., and they have undertaken to carry it on for three years in order to obtain conclusive data. Equipment is obtained from manufacturers under an agreement for a three-year loan or commitment with special discounts for its purchase by the farmer, or, for its return at the end of the three years. The farmers have shown great willingness to cooperate in the research work and many manufacturers have been equally willing to help."

—*Electrical Record*, Sept. 1926.

Pacific Gas and Electric Displays Customers' Products in High-Intensity Illuminated Windows

The accompanying photograph shows a display of electric refrigerators which was made recently by the Pacific Gas & Electric Company, San Francisco, in their high-intensity illuminated windows which are turned over to their customers in rotation for the display of their goods, the exhibit in each case being arranged under the power company's direction from the stock of the customer.

In order to demonstrate the dollar-and-cents value of properly utilizing, controlling and directing the illumination in their show windows and stores, the Pacific Gas & Electric Company completed a most modern installation of window lighting. Two windows are offered to the customers of the company as an added opportunity to display merchandise sold in their own place of business, and to permit the mer-



chant to see his own merchandise properly illuminated. In this way the merchant may realize fully the positive ability of light to create sales appeal, and to see what correct illumination can do. In addition to the usually complete electrical installation, the windows are equipped with water, gas, compressed air and drainage connections.

"Magic Box" Booklet Suitable for Christmas Distribution

G. G. Whitney, assistant manager of the Kelvinator Corp. has issued a bulletin to all dealers under date of November 27, as follows:

"It seems to us that the Christmas season is a very opportune time to make use of the booklet 'Magic Box,' which was recently issued by the Society for Electrical Development."

"As you probably know, this booklet was designed for children and an appeal is made thru them to their parents on electric refrigeration."

"These booklets can be obtained from the Society for Electrical Development, Inc., 522 Fifth Ave., New York City, direct. For your information, we again quote prices which are in effect:

100 copies	10c each
1,000 copies	7c each
5,000 copies	6c each
10,000 copies	5c each

"A sample of this book was mailed to you with General Bulletin No. 26-84, on October 13th, 1926. If you have misplaced it, please let us know and another sample will be forwarded."

"Kiddies are particularly interested in material of this sort at Christmas time. Fit this into your Christmas program and get a copy into the hands of the children of all your choice Kelvinator prospects."

Ice Cream Manufacturers Approve Big Advertising Campaign

The outstanding feature of the 26th Annual Convention of the National Association of Ice Cream Manufacturers that recently met at Detroit, was the appropriation of an annual fund of \$250,000 for a period of three years for a national co-operative advertising campaign. To accomplish this objective, each ice cream manufacturer pledged to pay his pro rata share of this fund.

RETAIL 1927 FRIGIDAIRE SALES ESTIMATED AT \$160,000,000

Combined Delco-Light and Frigidaire Payrolls to Reach 12,000

Preparations being made in factories of the Delco-Light Company to handle the 1927 production schedule, which it is estimated will reach a retail sales value of \$160,000,000, were described by T. B. Fordham, works manager of the company, at a meeting of the Kiwanis Club at the Miami Hotel, Dayton, November 30, according to an article in the *Dayton Herald*.

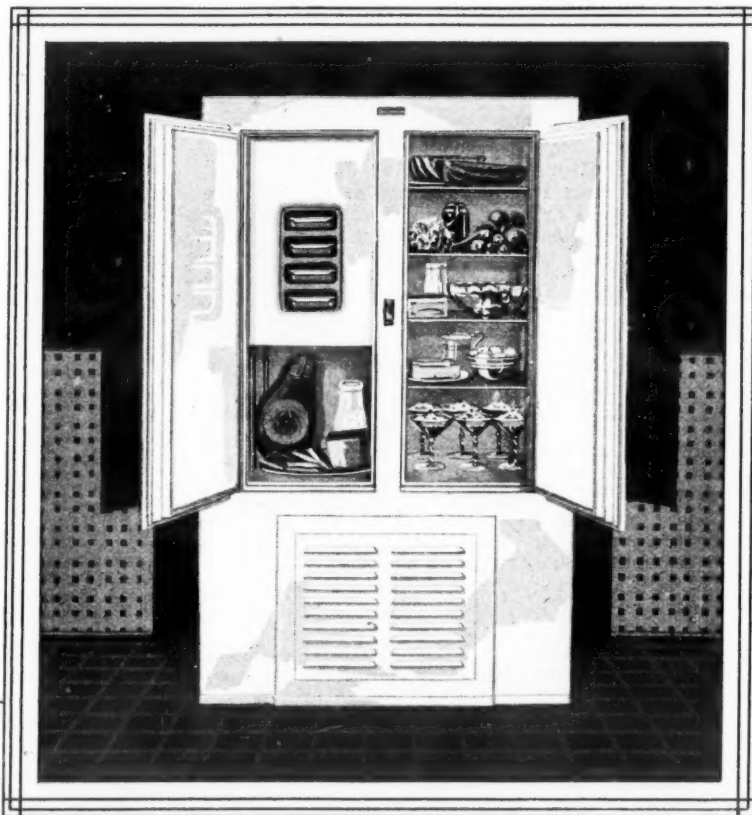
All Frigidaire mechanical units will be manufactured at the Taylor street plant, Mr. Fordham said, where \$5,000,000 worth of new machinery will be installed by the end of December. A complete new factory layout has been arranged for this plant.

Installation of machinery along five conveyor belts is proceeding according to schedule at the Moraine Frigidaire plant, which will be ready to go into production shortly after January 1. At this plant nothing but household cabinets and ice cream cabinets will be built. This plant has a capacity of 50,000 a month.

The factory force will be increased materially shortly after the first of the year and other additions will be made later as production requirements render necessary, Mr. Fordham said. Operating the plants at capacity will bring the total Delco-Light and Frigidaire payrolls to 12,000 people, he said.

The Danis-Hunt company, of this city, was awarded the contract November 30 for the erection of a brick and concrete building in the rear of the power house of the new Frigidaire plant at Moraine City by A. D. Byers, chief construction engineer of the General Motors Corporation.

PROOF



WE WANT the kind of dealer who feels that the only products good enough for him to sell are those he can prove to be the best. Kelvinator furnishes that proof in convincing, usable form.

KELVINATOR INCORPORATED, 2051 WEST FORT STREET, DETROIT, MICH.
Division of Electric Refrigeration Corporation
Branches: New York • Chicago • Boston • Detroit • Atlanta • Baltimore
Kelvinator of Canada, Limited, 1151 Dundas Street, East London, Ontario

We invite responsible dealers to write for this proof.

Kelvinator

The Oldest Domestic Electric Refrigeration

"Better Always Better"

Women Ask Unusual Questions

Peculiar Views and Inadequate Understanding Revealed by Survey in Chicago Suburbs

Can Children Get Hurt?

A-50 Mrs.—Two children. Own home. Nicely kept and furnished.

"I haven't one just now, but I mean to have one when we get around to it. They seem to be very satisfactory wherever they have them. You will find that there are not so many people here have them, as in some other places of equal size and wealth, because there are so many that live in homes that are furnished by the company; and the people are not so apt to buy them for their homes until they own their own. Then the price is a very big drawback to even those home-owners. It seems a shame that the price cannot come down a little so that more people can have them without waiting so long. Can any one run the thing? Is there any danger connected with them? Could children get hurt around them?"

Will the Company Show How to Use It?

A-51—Mrs.—Two children. A nice furnished home. Buying it on installment plan.

"I hope to have some day, but I cannot tell just now when that will be. I think that the price now is a little steep, don't you? What about learning to make new desserts? Do you get recipe books with the new ones, or will the company's demonstrators come out and show how to use it? I should think that if the refrigeration company would send out these demonstration workers that it would mean a lot of extra sales for them, because women usually turn out to demonstrations, and when you once show them that they are the only thing to have then you have done the hardest part of the selling. Once have the women convinced and then the poor men haven't much to say about not getting one."

Does the Food Taste from Gas or Chemical Odors?

A-52 Mrs.—Live in an apartment. No children.

"I have none and I don't see any opening for one very soon, either. I think that they are a very good thing to have and I only wish that they were within the price of every woman's pocketbook, but the company seem to be holding the price up pretty high even yet. What causes the old refrigerators to get so warped looking after they have been in use for some time? Will the new ones do that? I hear the new ones are just as good looking as they can be. Could any one do repair work on them, or can only experts take care of them when they go wrong? Does the food ever taste from the motor or are there no gas or chemical odors coming from it?"

Does the Amount of Coldness Depend on the Size?

A-53 Mrs.—Own their home. A very nice one of moderate size and furnishings.

"I have no electric refrigerator and just at present I see no hopes of getting one very soon. They are too high priced now to ever consider. I would want to choose the very best one if I were to get one, so I would want to study them very thoroughly if I were ready for that. Can you get one of various sizes of ice compartments and trays? What I mean is, can you get one with large size trays and a smaller part for the motor and ice coils, or are they all regulation size? I thought that if the trays could be large and less coils, then the box would not have to be so large and could fit into a corner. I did not know if there has to be a certain size for a certain amount of coldness or not."

Does the Motor Make Any Smudge or Dirt?

A-54 Mrs.—Eight children. Have a large, well kept home. Renting the house.

"Right now there is no use even considering one. I think that they are fine and all that, but I am not planning on buying one now. I hear that they are not very economical, except time and worry, even after the initial expense. Of course, that depends upon the amount of ice that one would use otherwise anyway. Are they hard to keep clean? I mean, does the motor make any smudge or dirt?"

Will a Man Have to Come from Some Other Town to Do the Repairing?

A-55 Mrs.—Very small house.

"I haven't any and I see no hopes of getting one soon. What about the amount of power that it takes? Will it make the electric light bill go up very high? Some have mentioned that the first month the bill was not so high as it was the months following. What accounts for that? Do the men who install them really know what to do in case that something goes wrong, or do we have to have a man from some other town come to do the repairing?"

Pure Ice and Food Appeals to Her

A-56 Mrs.—One child. Own their home.

"I have no intention of buying electric refrigeration conveniences now, though I know that it is a wonderful thing to have. The fact that you can have pure ice and pure, well kept foods is more of an argument for it, to me, than the fact that they mean less work. I always disliked the idea of putting poor ice in our drinking water."

Are They Odd Looking?

A-57 Mrs.—One child.

"No, I haven't any electric refrigerator now because we are living in this company house and we don't buy any more of our own things than we have to on account of having to move every once in a while, when my husband has a position in a different section of the mill work. I can see where they would be the only thing to have if they were to be had in a smaller size to fit into small homes. Are they made in many different sizes so that there would be enough to choose one to fit exactly into the wall space that they have for one? How much do they cost to put one in? Are they just as good looking as the other ones, or are they odd looking? I haven't time to study up on them but I shall do it some day."

I Wish They Would Explain How It Works So a Woman Can Understand

A-58 Mrs.—One child. Do not own their own home. Live in a new building.

"About the first thing that you hear about them when people are mentioning anyone having an electric refrigerator is the amount it costs and how much better the food keeps. I feel that it is the cost that keeps almost everyone from having one. Can you put new motors in an old box or will that not work out very well? I had an idea that they were very noisy, but I hear now that they are not. I wish that they would explain how electrical refrigerators work so that a woman could understand them."

Is There Any Danger from Acids?

A-59—Mrs.—Young married couple. Live in an apartment.

"No, we haven't any here in the apartment because we have only the things that were furnished with the place. I have a friend though that bought her own and when they moved, they simply put this one on the van and bring it along. Hers gives her a lot of trouble, though, because it does not seem to be properly regulated. It could be fixed I should think by having a mechanic come and do it. It wouldn't take much time to do it and it would make the thing worth the price they paid for it. Do they smell badly from the chemicals or the motor? Could there be any danger of acids flying off from the engine and spoiling dresses? I am deathly afraid of acids burning me."

Are There Enough Kinds to Get One to Suit Your Likes?

A-60 Mrs.—Middle-aged couple. No children. Own their home.

"I haven't any but it is not because I do not realize that they are the only thing to have. I will have one when I can have one. I know that they are convenient, safe, clean, sanitary, easy on one's nerves, and easily run, what more could one ask? Do the companies give you any thing on your old one? Do they make enough kinds, that you could get one that had certain things on it or not on it, to suit your likes? Each one has certain things about them that I do not like."

Preservation of Food and Health a Good Point to Stress

A-61 Mrs.—Fair circumstances. Live in a nice, though modest home.

"A person hardly knows whether to buy one or not, unless you have friends who have one. None of our friends have one now. All dealers boost their own things—naturally—but I really think that they must be wonderful. The mere saving of food and the preservation of food in a more tasty and sanitary way is an argument for one. Preservation of food and health is a good point to stress for an appeal to conservative, common sense housewives."

If my Electric Dealer Recommends it That is All the Proof I Need

A-62 Mrs.—Very refined appearing. Three people.

"I haven't one now but if I ever sell this huge house and build a smaller one, then I'd never hesitate for a minute in installing one. You'll notice the wealthier the town, the more electrical refrigerators there are. That is because the price keeps people from having them. You'll find that—people would all be up-to-date enough to want one, and they will have them as soon as the price is lowered, too. If my electric dealer says that they are good, that is all the proof I need for their recommendation. He sold me an electric Coffield and a Hoover sweeper and I have had the former for seven years and my sweeper for eleven, and they are both as good as new. If your dealer is reliable, then it boosts the commodity a lot. Dealers can make or spoil sales on electric refrigerators by the standard of their sales."

A Satisfied User Is the Best Proof

A-63 Mrs.—Three young children. Old home.

"I haven't one now but we are planning on building a new home soon and then we are going to have one without fail. Any one can see they are the only thing. We have a nice big icer now and we are going to try to find some way to dispose of the old one. All these new ones though seem so large and so expensive. My sister out in Indiana has one and she is urging me to get one. When people that have them recommend them, then it is a pretty good thing. A satisfied buyer is about the best proof of a commodity's worth."

On the Boardwalk at Atlantic City



General Electric refrigerator displayed on the boardwalk at Atlantic City, N. J., part of the General Electric Company's national exhibit. The display was designed by E. F. Newkirk.

Ice and Salt Cabinet Men To Advertise

The merits of ice and salt refrigeration will be set forth by direct mail and through the medium of trade papers if the wishes expressed by the members of the Association of Ice and Salt Cabinet Manufacturers held at Detroit recently are carried out.

The decision to engage in an advertising campaign followed a discussion of the various problems confronting the trade. A committee was selected to inquire further into the feasibility of conducting the campaign and also to consider ways and means of raising funds for its proper financing.

New Gas Refrigerator Placed on the Market

A gas operated, absorption-type refrigerator has been placed on the market by the National Refrigeration Company of New Haven, Conn.

Jaeger Elected Secretary of Leonard Refrigerator Company

Announcement has been made by the Leonard Refrigerator Company, Grand Rapids, Michigan, a division of the Electric Refrigeration Corporation, of the election of August H. Jaeger as secretary. In addition to his duties of secretary, Mr. Jaeger retains his position of sales manager.

Servel Secures Large Order for Gas Refrigerators

Servel Corporation has arranged with the Consolidated Gas Company of New York and affiliated companies for distribution of its gas-fired Electrolux-Servel machines in New York City other than Brooklyn, and has received a substantial order for these machines. Consumer distributions will begin January 3.

Comments of Other Publications

Refrigerating Engineering (Sept.) says: "ELECTRIC REFRIGERATION NEWS, a business newspaper of the electric refrigeration industry, covers primarily the electric household mechanical refrigerating unit and should be of marked value to the electric lighting companies and dealers in and salesmen of electric refrigerating units."

"The marvelous development of the electric household refrigerating machine and the large number of manufacturers of this line of equipment warrants the publication of a journal catering to their particular problems."

The Advertising Weekly (Nov. 20) says: "ELECTRIC REFRIGERATION NEWS, the sprightly fortnightly newspaper of the electric refrigeration industry, has just come to hand, and the ADVERTISERS' WEEKLY commends it to all who are interested in the refrigeration field."

"Important happenings in this industry are thoroughly and interestingly covered, and it may safely be predicted that the industry's new mouthpiece, endorsed by the Electric Refrigeration Council and the Society for Electrical Development, will play an important role in the development of electrical refrigeration."

Production Rate Being Maintained by Copeland

Copeland Products, Inc., reports that sales during the early months of the winter are equal to those of the summer period and that the plant will run through the year at full speed. Sales pressure has been increased during the season normally expected to be dull and results have been highly satisfactory.

Tyson Agency to Direct Ice-o-lator Advertising

The National Refrigeration Co., New Haven, Conn., manufacturers of the Ice-o-lator gas-operated refrigerator, has appointed O. S. Tyson & Co., New York agency, to direct its advertising.

NOW
FOR THE FIRST TIME
Electric Refrigerators
that can be
Profitably Merchandised

THE Rice Line for 1927 offers the dealer the nearest thing to total service elimination. You keep your profit.

By dint of 25 years' actual experience in the refrigerating market, we have placed electrical refrigeration on a sound commercial basis by offering a simple rugged unit stripped of all unnecessary mechanical detail.

There is no mystery in the operation of Rice Electric refrigerators. No wiping out of profits by an unexpected service liability.

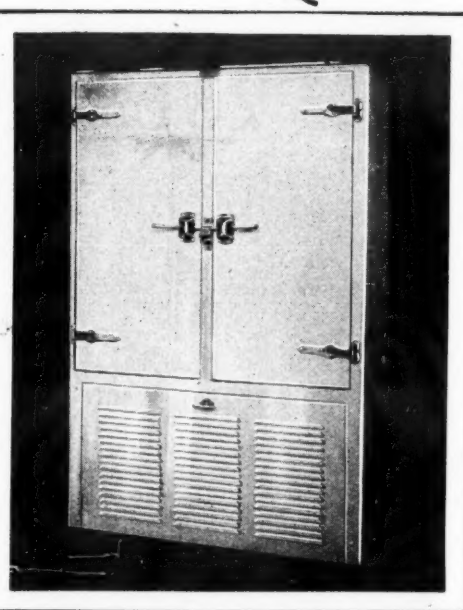
Rice engineers have designed a simple, efficient, economical unit and it is different.

We challenge investigation. We want dealers to see for themselves the service-free, time-tested efficiency of Rice Electric Refrigerators. They are an asset, not a liability.

Some attractive territory to be closed for 1927—Write us now!

RICE
Electric Refrigerators

RICE PRODUCTS, INC.
100 East 42nd Street
New York, N. Y.



Model M-12

SUITABLE for the large family where ample storage capacity is desired. Overall dimensions: 68" high, 44" wide, 25" deep, with a food storage space of 12 cu. ft. Makes 72 cubes of ice.

Some Rice Improvements

No Brine Tank or Cooling Coils
No Expansion or Float Valves
Quickest Ice-Cube Service
Greater Simplicity
Economy in Operation

Installed in more than 250 ships
of the U. S. Navy

ELECTRIC REFRIGERATION NEWS

The Business Newspaper of the Electric Refrigeration Industry

PUBLISHED EVERY TWO WEEKS BY
BUSINESS NEWS PUBLISHING CO.

409 East Jefferson Avenue, Detroit, Michigan
Telephone: Cadillac 4445

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DECEMBER 8, 1926

Joint Pull vs. Individual Effort

"I learned to appreciate and understand it nearly fifteen years ago when I first became associated with the General Electric Company. As a matter of fact, co-operation in the industry, in my judgment, accounts for the great advance of the last ten years. It is more important than invention, administration, or finance, because the industry is peculiarly one, with its rapidly developing art, which requires the joint pull of everybody in it as distinguished from isolated individual effort. Through co-operation two times two does not become four or four times four sixteen. They become hundreds or thousands."—Owen D. Young.

The King and the Beggar

A COLD and hungry beggar once knocked at the gate of the palace of a king. The king was informed of his request for food and shelter, and bade him enter. On beholding the plight of the vagrant, he was moved to pity and ordered a servant to prepare hot porridge.

While awaiting the food, the king noticed the beggar place his hands against his mouth and blow into them. Never having been exposed to the cold himself, the king was greatly interested.

"Why do you blow into your hands?" asked the king.

"To make them warm," said the beggar.

The porridge having arrived, the hungry man started to devour it, but found it too hot, so he blew into the dish repeatedly. The king's interest increased.

"Why do you blow into the porridge?" asked the king.

"To make it cool," said the beggar.

"Begone!" commanded the king. "Any man who can blow hot and cold from the same mouth has no need of charity."

THAT the same electricity which makes the iron hot can also make the refrigerator cold, is a puzzle to the public. What goes on inside the device is highly mysterious. We have known how to make heat for ages, but making cold could only be done to a slight degree by the layman. It is natural that this new application of electricity should excite the imagination of the public.

That gas of some kind is used in the process only adds to the mystery. Gas connotes an element of danger. Every year hundreds fail to heed the admonition "Don't blow out the gas"—with disastrous results. The war impressed the public with a new fear of gas.

It would seem that any salesman would know better than to attempt to sell an electric refrigerator to a woman by talking about the gas it uses. It is bad enough to talk about an odorless, non-poisonous, non-explosive refrigerant.

But the height of folly is certainly reached by talking about the "dangerous" gas used in some other make of refrigerator. If such is true it may call for proper action of health authorities or the numerous regulatory bodies which inspect everything electrical. But when a salesman undertakes to create confidence in his product by instilling fear of another (which looks just like it) his process of reasoning is beyond comprehension.

SO FAR only a few accidents have occurred. Reports from these very infrequent cases have probably been exaggerated. It is inevitable that headline writers should seize upon any new and unusual feature. It is greatly to be regretted, however, if any conscious effort should be made to cause needless alarm on the part of the public.

Contaminated food shortens the lives of thousands of people annually. Except in cases where a group of people are stricken at one time, or when death results almost immediately, intestinal afflictions resulting from poor food have little news value. They are too common to be news.

ELECTRIC refrigeration represents the greatest advance in the art of food protection in the home that has occurred in modern times. Its importance in promoting health, especially of children, cannot be overestimated.

In general, electrical methods are far safer than any other means of accomplishing the same tasks in the home. The electrical industry has accepted the responsibility of guarding against the slightest danger to employees and users. The confidence of the public in electrical service is justified and must be maintained.

Christmas Suggestion

To manufacturers, distributors and dealers: A gift that every member of your sales and service organization will appreciate throughout the coming year is a subscription to ELECTRIC REFRIGERATION NEWS. Say "Christmas Gift" in your order, and we will send a subscription receipt stating that the paper is being sent with your compliments.

"WHY I LIKE THE ELECTRIC REFRIGERATOR"

A series of Interviews the Society for Electrical Development has had with people who speak from their own experience.

It Proves Its Value as an Aid in College Instruction

By SHIRLEY ELEANOR DANE

Colleges are paying a great deal of attention nowadays to home economics. By talking with the dean of this department in a midwestern state university I learned that teachers consider home refrigeration of food highly important. In this university an electric refrigerator is a part of the equipment regularly used in teaching girls the rudiments of good homemaking—sound ideas applicable in homes of modest circumstances. The dean told me how her department functions.

"Because homemakers should understand the importance of temperatures on food, we teach the principles of refrigeration in several departments," she said, "and with slightly different angles, depending upon the course."

Refrigerator Helps Instruct

"We have an electric refrigerator in our practice apartment. This space is an apartment furnished in good taste, and as if by a family in moderate circumstances, but it is as near a model apartment as we can make it. The girls look forward throughout their entire course to their week of residence there."

"There was some criticism about installing an electric refrigerator, and we had many meetings about it. Some said it established a false standard; others that it would strike a false note with the simplicity of the other furnishings and equipment; but the instructor in charge of the course using the apartment could answer every argument and advance many advantages in addition. She showed that electric refrigeration is absolutely practical and therefore ought to be studied."

First Cost Is Justified

"That was several years ago, and so far the installation has been a source of

Note: A column of electric refrigeration publicity is furnished with every other issue of the weekly syndicated news service of the Society For Electrical Development, 522 Fifth Avenue, New York.

The editor of your local newspaper may obtain this service by making written request to the Society. It is now furnished to approximately 1,000 newspapers in all parts of the country. The copy is educational in character and contains no hidden advertising for any particular make of device. It is designed to educate the public to a fuller appreciation of the advantages of electric service in the home and will be found to be very helpful in stimulating interest in all kinds of electrical service.

great satisfaction. In all our teaching—with undergraduates, or short courses, or extension groups—we strive for accuracy. In the home it means much to let a budget answer financial problems instead of following inclination or a neighbor's precedent.

"With equipment, accuracy demands thorough study of one's needs and of all reputable products available in relation to those needs. That is one of the chief projects which our extension workers emphasize in their various group meetings throughout the state. It means, of course, that a large initial expenditure justifies itself when returns are measured and when it is spread over a period of years."

"Another angle of thought often neglected, especially by farm women of the past, is the money value of time, physical waste of overwork—which results in sickness—the need for daily relaxation made possible through modern equipment."

"The importance of refrigeration in the home is just beginning to be understood. Perhaps we educators are not doing enough, but there is so much to be covered in so short a time! There are far too many homes without any attempt at food protection. That is a problem for the extension department. Then there are the homes where money is wasted on makeshifts, or poorly constructed boxes. That, too, belongs in the extension department, but also with the manufacturers of good equipment. Advertising of the right sort can do so much nowadays. Let refrigerator manufacturers talk temperature instead of beautiful desserts. And pure ice and clean floors and safe food storage in the home. That is real and valuable instruction for the public."

CO-OPERATIVE POSTER

electric refrigeration

insures proper food protection through constant Cold

To protect food is to protect life

A WAY TO BETTER LIVING

This electric refrigeration poster has been produced by The Society for Electrical Development as part of the national co-operative refrigeration program for which the following companies subscribed \$100,000:

Copeland Products, Inc.
Kelvinator Corporation.
Nizer Corporation.
Servel Corporation.
General Electric Company.
Delco-Light Co. (Frigidaire).

The design of the poster was carefully worked out under the supervision of the Advertising Committee of the Electric Refrigeration Division of the Society.

The emblem and slogan in this poster tie it in with the national advertising running in the *Saturday Evening Post* over the signature of the Society.

Information regarding posters may be obtained from the companies mentioned above or from the Society for Electrical Development, 522 Fifth Ave., New York.

Cold Suppers

From the Electric Refrigerator

By SELMA E. DAHLGREN

There are many occasions when the main dish for a company luncheon or late-at-night supper can be prepared long before serving-time and left to chill in one of the cold compartments of the electric refrigerator. This also is an attractive way to utilize large left-over portions of meat, fish, fowl, and vegetables. Here are dishes that make attractive platters when garnished with celery curls, radish blossoms, mayonnaise clusters and lettuce:

Ham Mousse

Dissolve one tablespoon gelatine in hot water, add two cups of baked ham, ground fine. Season with teaspoon mustard, celery salt and cayenne. Add one-half cup cream beaten stiff. Mould in freezing chamber for two hours, then set in lower compartment. When time to serve, garnish platter and serve with mayonnaise to which grated horseradish, mustard sauce and cayenne have been added before combining with whipped cream.

Jellied Fish

Soften one tablespoon gelatine in four tablespoons cold water, then stand in hot water until dissolved. Flake one cup left-over seasoned fish—salmon, halibut, trout, abalone; or canned fish—tuna, crab, lobster. Add salt, paprika, a few capers, two teaspoons vinegar or lemon juice and two hard-boiled eggs cut or grated fine. Add dissolved gelatine to one cup boiled salad dressing and blend in the fish. Mold and chill, first in the freezing chamber till very firm, then in the lower compartment. When time to serve, remove to bed of lettuce leaves on glass platter and garnish with slices of lemon.

Jellied Vegetables

Soak two tablespoons gelatine in half cup cold water till soft. Combine with one-half cup vinegar, two cups boiling water, one-half cup sugar, one teaspoon salt. When starting to thicken, add cooked vegetables: string beans, carrots, peas, beets, chopped cabbage and sliced celery. Moisten ice cube mold with cold water and pour in the mixture. Let chill one hour, then set in lower compartment. Serve with mayonnaise. Fresh fruits—cherries, oranges, peaches, pears, pineapple, bananas—alone or in combination, may be used with this aspic to make a fruit salad.

Jellied Meat Loaf

Any meat gravy or extracted juices of meat may be heated and strained and then thickened by adding one tablespoon gelatine, previously soaked in half cup cold water, to one and a half cups of boiling stock. Flake the cold meat: tongue, veal, ham or chicken, season with celery, parsley, salt, herbs, to taste, and combine with the aspic. Cold vegetables—asparagus tips, French peas, midget lima beans and string beans—together with rice hard-boiled eggs, may also be added. Chill the mold for an hour in ice cube compartment, then set in lower section until needed. Garnish with mayonnaise cones and beet hearts.

School Day Lunches

With school days comes a tightening of the household schedule loosened in many homes during the months when the school bell was quiet. Lunch must be on time again, or the very real bugaboo of being "tardy for school" will cause the children to leave the table before they have eaten sufficiently.

If a cream soup begins the lunch, the vegetable may be jellied and chilled in a mold and served as a salad, the balance of the salad appearing for the grownups in the evening.

Here is a recipe that is easily prepared and may be varied by use of different vegetables, cold meat, fish or fowl, and stock.

Luncheon Loaf

Soak two tablespoons gelatine in one cup cold water till soft. Season two cups meat stock with onion and celery cut fine by boiling three minutes. Pour over the gelatine. When beginning to stiffen add two cups cooked vegetables and one-half cup cold meat cubes, or vice versa.

Wet the ice cube tray in cold water, then turn in the mixture. Let chill for one and a half hours, then remove from tray and set in lower compartment till needed. Slice and serve with boiled dressing for the youngsters, mayonnaise for grownups.

Some parents find it difficult to get their children to drink as much milk as they should take for their age and stature. Again the freezing compartment of the electric refrigerator is the reliable ally for simple custards, junkets and puddings, which take on a holiday air after a few hours in the freezing compartment. Here are typical desserts that should be on the children's lunch regularly:

Frozen Custard

Scald three cups of milk and thicken with two tablespoons cornstarch blended till smooth in one-fourth cup of milk. (Or allow two eggs to each cup of milk and omit cornstarch.) Beat two eggs lightly with ¾ cup sugar and one teaspoon salt, add to milk and cook in double boiler until custard coats spoon. Let cool, then add one teaspoon vanilla, turn into ice trays to freeze. Quicker results are obtained by stirring the mixture twice at half hour intervals. The custard will be ready to serve in three hours.

Construction and Insulation of Refrigerator Cabinets Discussed

Importance of Good Insulation—Leakage Calculations—Points to Consider in Buying

By A. R. Stevenson, Jr., Engineering General Dept.
General Electric Co., Schenectady, N. Y.

Note: In the following article Mr. Stevenson continues the discussion of electric refrigeration development, started in the issue of October 30.

Most Ice Boxes Not Well Insulated

A generation ago, spring houses, cold cellars, etc., were used extensively for preservation of food; and they are still used today, especially in country communities. But most of us have been brought up in homes where the ice box has been taken for granted as the proper method of preserving food, and food can be very well preserved in a well insulated ice box. Unfortunately, however, the great majority of ice boxes are not well insulated. The following quotation from a paper entitled "A Study of Refrigeration in the Home and the Efficiency of Household Refrigerators," read before the Third National Congress of Refrigeration, in 1913, by Dr. John R. Williams, Secretary of the Milk Commission, Rochester, New York, is of interest:

"Neither the cellar nor pantry in the home are sufficiently cold to keep perishable foods from spoiling during the warm months of the year; therefore, every home should have a good refrigerator."

"Only about half the homes in the city have refrigerators; the other half are compelled to depend upon the inadequate protection afforded by the cellar."

"The majority of domestic refrigerators are inefficient because they consume too much ice and do not maintain a temperature low enough to prevent food from spoiling."

"The chief explanation of their inefficiency is to be found in the lack of sufficient and proper insulation."

"There are a large number of shoddy refrigerators on the market which contain no other insulation than a sheet or two of paper. They are sold chiefly to working people who can ill afford to use them, because they are both unsanitary and grossly uneconomical in the consumption of ice."

"The waste from ice meltage because of improper insulation of refrigerators in Rochester homes (population of city, 230,000) amounts to 60,000 tons yearly, or about \$350,000."

"At least \$100,000 more is wasted yearly in the present competitive system of delivery."

"Unnecessary work makes ice refrigeration cost the customers three to five times as much as it should."

"There are certain simple directions which will be of assistance in selecting a refrigerator. If they are observed, the purchaser can at least avoid being defrauded."

"One should insist upon seeing a section of the wall of the refrigerator which he contemplates buying. Honest manufacturers are always willing to let customers know the character of their wares."

"Do not buy a box which does not bear the name and address of the maker, nor one sold only under the name of a retail dealer. If the manufacturer is ashamed to acknowledge his handiwork, you are justified in suspecting fraud."

"Beware of impossible 'vacuum,' doubtful 'dead air space,' and no-good paper insulation."

"Money invested in insulation will be returned many times in the saving in ice bills. Added insulation means not only economy in ice consumption, but also lower temperature in the refrigerator and the less spoiling of food."

Additional Cork Insulation a Good Investment

Some of Dr. Williams's conclusions are confirmed by calculations which show the improvement in temperatures and the saving in ice effected by adding insulation to an ordinary 100 pound ice box. One inch of corkboard over the area of this box would total 42½ board-feet. An extra inch of cork insulation could have been furnished with the box at an additional selling price of about \$20.00. Assuming 6 per cent interest on the investment and 10 per cent depreciation, it is found that the annual fixed charges on this extra inch of insulation would be \$3.20. But, to offset this, better refrigeration is secured and 6 25 lbs. of ice per day are saved. Assuming that the box is used during six months of the year, the annual saving is 1140 lbs., which at 60 cents per hundredweight corresponds to a saving of \$6.85 worth of ice, or a net saving of \$3.65. This is 18 per cent on the investment, as well as better refrigeration. Similar calculations show that with three additional inches of cork insulation, the net saving would be \$2.55 which is 4¼ per cent on the \$60.00 additional investment.

In the design of any ice box, the question always arises as to what allowances should be made for the doors. The doors are the source of three types of loss:

- Spilling of cold air when the door is opened.
- Leakage due to badly fitting doors.
- Conduction through the door frames which, of necessity, are badly insulated.

Loss From Opening Doors Not Over 10 Per Cent

The first of these is not so serious as is generally supposed. Consider a box having 6 cu. ft. internal volume, operating at 40° F. Assume that when the door of the box

is opened all the cold air spills out and is replaced by 70° F., 66% humidity air. The question is how much refrigeration will be required to cool the air from 70° F. to 40° F. and condense the water vapor. Six cubic feet of air at 70° F. would weigh about 0.45 lbs. Since the specific heat of air at constant pressure is 0.24, it would be necessary to abstract 3.24 B.t.u. in order to cool this air 30°. But, this air originally contained approximately 0.00454 lbs. of water vapor, and when it is cooled to 40° it is incapable of holding more than 0.00246 lbs. of water vapor. The difference must be condensed and the latent heat of vaporization at these temperatures is approximately 1060 B.t.u. per pound. The condensation would, therefore, require 2.2 B.t.u. The total refrigeration required to cool the air and condense the water would, therefore, be about 5.44 B.t.u., or 0.0378 lbs. of ice. If the box were opened twenty-five times in the course of the day, this would total less than a pound of ice, which would be only about 2 or 3 per cent of the total ice meltage in the box.

An extreme case would be operation in a 90° room with 100% humidity, under which condition the refrigerating effect required to cool the air and condense the moisture would be approximately 168 B.t.u. If the 0.011 lb. of condensed moisture were also frozen to the brine tank, an additional 1.6 B.t.u. would be required, making a total of 18.4 B.t.u., or 0.128 lb. of ice, for each opening. If the box were opened twenty-five times, this would be 3.2 lbs. of ice per day which is less than 6% of the probable meltage of ice in the box.

Such calculations lead us to believe that the effect of opening the doors is not likely to be more than 10%. Leakage due to badly fitting doors can, to a large extent, be overcome by the use of cushion gaskets.

The conduction through the door frame is much more serious. Calculations and tests seem to indicate that, even in a very well constructed box, the heat conduction through the door frames which of necessity are badly insulated is between 25% and 35% of the total leakage. If "all-metal" refrigerator boxes have metal flashing along the door edges, sills, and jams, forming a metallic connection between the sheet steel lining and sheet steel exterior, this loss by conduction is likely to be greater than the total leakage through the walls of the box. One of the difficulties in attempting to make a vacuum refrigerator is the sealing of the door edges. The best "all-metal" refrigerator boxes are not really "all-metal" because the door edges, jams, and sills are made of wood.

No Advantage in Many Small Doors

How many doors should a refrigerator box have? The opening of one small door out of four may spill less air than the opening of one big door, but the four small doors have double the perimeter of door frames than the one big door, and it is very difficult to properly insulate the cross pieces between the doors. Of course, one door would be unwieldy on a large box; but when people pay extra for a small ice box with several small doors, so small that platters have to be tipped on edge to go through the openings, with the idea that this arrangement is more efficient than a less expensive refrigerator with one door large enough to form a convenient opening, it would appear that they are deluding themselves.

PHILIPPINE MARKET FOR ELECTRIC REFRIGERATORS

Just Being Introduced in Islands and Are Attracting Much Attention

The Electrical Equipment Division of the Bureau of Foreign and Domestic Commerce, U. S. Department of Commerce, has recently published Circular No. 509, covering use of electric refrigerators and other electric appliances in the Philippine Islands, based on information supplied by Wilbur K. Hoyt, U. S. trade commissioner at Manila.

The report states: "Refrigerators are used in the homes of all the foreigners and by most of the better class native families. Ice is regarded as a necessity by these families, and is being used more extensively by the middle classes also, as food spoils very quickly unless it is kept in a refrigerator. Electric refrigerators have just been introduced in this market and are attracting a great deal of attention. Although there are only two prominent makes which have thus far appeared on the market, other makes of American electric refrigerators are expected to enter the market in the near future. Electric refrigerators are the only electric appliances sold on the installment plan."

WHAT THE PUBLIC DOESN'T KNOW

From Commerce and Finance

The selling process is the ultimate purpose of an organization, and if it fails the company fails.

Its vital importance is obvious. It is the only reason why a business exists.

We sell to a public. That public is a peculiar thing. It is busy, indifferent and exacting. We know less about it than we should, but we do know, however, that:

1. It is a fallacy that the public will automatically seek the best. It has to be educated and directed.
2. It is a fallacy that the public knows the difference between price and value.
3. It is a fallacy that the public will automatically reward enterprise and service.
4. It is a fallacy that the "public knows what it wants."
5. It is a fallacy that the public will demand over any great length of time what it is not reminded of.

Therefore, we have salesmen and sales departments with their educational methods.

Selling is an absolute essential function of all enterprises depending upon public support. It is a human process because, no matter how much it may depend on price, it must also have those elements generalized under the cloudy phrase of personality, which can tip the scale in favor of our particular firm.—E. St. Elmo Lewis, to American Institute of Steel Construction.

Couzens Property Purchased

E. G. Franz, formerly of the Franz Premier vacuum cleaner company is reported to have purchased the electric refrigeration interests of Senator James Couzens, including the property of the Superior Refrigeration Machine Company.

WHO SHOULD SELL ELECTRIC REFRIGERATION?

Buyer Expects Service 365 Days a Year

By E. R. Mason, Sales Promotion Dept.,
Central Hudson Gas and Electric
Co., Poughkeepsie, N. Y.

Will the electrical refrigerator industry benefit by the experience of other industries that have taken many years to develop their business? At first thought you may be inclined to say that they have profited by the experience of others, and cite as proof the tremendous growth of the electrical refrigerator industry in a comparatively short time.

Let us analyze this growth and determine how sound it is. An overgrown boy may develop a weakness that sets him back in later life. I believe many electrical refrigerator manufacturers have had "setbacks" in their progress because they have failed to profit by the experience of others.

Cites Experience of Automobile Manufacturers

I recall an instance that occurred in the early days of the automobile industry. A certain automobile manufacturer, eager to grab all the territory possible, gave the agency of their car to a jeweler in a fair-sized city. He took it on as a sideline. The car was a good one as compared to other cars in those days, and the jeweler sold a few, but he was not prepared to give service. In fact, he did not want to be bothered with service. As a consequence the cars did not give satisfaction, and although the motor car manufacturer continued to build good cars, it was a number of years before they were able to get re-established in that territory.

The same thing is happening to the electrical refrigerator industry today. I can cite many instances where electrical refrigerators have been sold in territories

where no service was available, to the detriment of that make of refrigerator and to the whole industry.

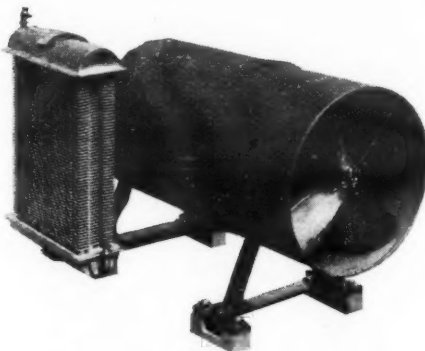
I do not believe that there is any mechanical appliance in general use today that parallels the electric refrigerator in its needs and accomplishments. Here is an appliance that should give 24 hours service 365 days a year. The purchaser of an electrical refrigerator has a right to expect this service without the inconvenience of interruption. Have manufacturers, distributors and dealers given enough thought to the future needs of the owner?

Good machines are being built today, but the tendency seems to be to decrease selling prices. Electrical refrigerators can be sold at present prices. Would it not be to the advantage of the manufacturer in the long run to use at least a portion of any saving in manufacturing cost to insure future service to owners? There are many ways this may be accomplished, and the additional confidence that it will give to the skeptical prospect will help to bring in many additional sales.

"Dealers may come and dealers may go, but the manufacturer wants to go on forever."

Edwards-Copeland Company Appointed San Diego Distributor

The Edwards Copeland Company, San Diego, Calif., has been appointed distributor for the Copeland electric refrigerator, and will shortly open up a fine show room on the main street of the city.



Enclosed Motor and Pump, Domestic Unit, Developed by Us for Domestic Electric Refrigeration Corp., N. Y.

H. R. VAN DEVENTER
INCORPORATED
342 Madison Avenue
NEW YORK

Specialists in the design and quantity production of electric and gas refrigerating units. Investigations of new machines for prospective investors and manufacturers. Tests on complete units, refrigerators, parts, and refrigerants.

Consulting services to manufacturers, costs systems and production plans that get results.

We specialize in pumps and are thoroughly advised as to the state of the art and the patent situation and can furnish satisfactory designs free from patent infringement.

Merchandising and advertising plans furnished based on accurate engineering and manufacturing experience and properly coordinated therewith.

Our personnel has over twenty years successful manufacturing and merchandising experience, and forms the only organization extant rendering a complete specialized service in this field.

REFRIGERATION PATENTS

Available and classified for ready reference, I have a very complete history of the published, unpublished, patented and non-patented art of refrigeration and can furnish therefrom accurate data respecting any new idea, or development.

I have contacts with engineers and attorneys all over the world specializing in refrigeration and can secure information from these and other sources having an important bearing on the validity and scope of many patents. I know the patent situation from 15 years practical contact therewith.

To those attempting to create patent situations I offer a specialized graphic charting service of inestimable value and can submit for purchase applications of interest from clients here and abroad which will aid ma-

terially in completing any situation in this field.

Engineers and Inventors having inventions to dispose of will find it advantageous to communicate with me.

Through associates abroad I am able to dispose of foreign rights to U. S. inventions and can initiate manufacturing and sales contacts, particularly in England and Germany. I have requests from concerns abroad wishing manufacturing rights to machines that are fully developed here.

In furnishing Reports, Opinions, etc., I bring to the work an experience of over twenty years as a successful manufacturer and engineer in addition to over fifteen years experience as a registered Patent Attorney.

H. R. VAN DEVENTER
342 Madison Avenue
NEW YORK

Opportunities for Improvement in Sales and Service Methods

Electrical World Summarizes Conclusions Drawn from Electric Refrigeration Survey

In the October 30 issue of ELECTRIC REFRIGERATION NEWS attention was called to the report of the national investigation of electric refrigeration made by the McGraw Hill electrical publications, which shows the immediate need for stabilization of production, selling and servicing policies throughout the industry. Extracts from the report were published to indicate the nature and scope of the survey. Market figures from the report were reprinted in the November 20 issue of this paper. The conclusions drawn from the investigation by *Electrical World* are given below:

Summarizing conditions and trends resulting from an analysis of the tabulated reports and weighing the opinions expressed by utility executives, distributors and all the selling outlets interviewed, the following conclusions with some suggestions can be made:

1. Electric refrigeration as a practicable and satisfactory service to the home has definitely arrived. There are a number of high-class machines now on the market that the central-station company can conscientiously recommend and sell to its domestic customers.

2. Utility executives are well convinced of the value of this load and regardless of the factors that have influenced local situations such as non-merchandising policies or conservatism toward the new development central-station companies should take immediate steps to promote the sale of electric refrigeration in their territory either by the organization of a special refrigeration sales and service department or more effective co-operation with local outlets. Sales programs for 1927 should be completely mapped out before the end of this year.

3. Central-station companies are the best existing retail outlets for a number of reasons: They are vitally interested in the development of electric refrigeration; they have sales and service departments that lend themselves readily to the business; they have a large prospect list readily made in their domestic customers; they can finance their own time payment paper, and they are a strong influence in recommending a new service to the public.

4. So far as can be ascertained, the ice industry has not actually suffered by the advent of electric refrigeration. Central-station executives as a whole have met the ice manufacturer problem openly. Little or no trouble has developed where the utility and the ice companies have got together and talked things over. Avoidance of the issue usually aggravates the situation, which should be ironed out at the start. There are indications that progressive ice dealers are slowly coming into the sales picture.

5. Commercial refrigeration is separate and distinct from the domestic field. It is being handled largely by manufacturers' branches and specialists but offers a large field for development by special commercial refrigerator salesmen. More thorough engineering of small commercial installations is needed and in cities large enough to offer sufficient market the central station should have at least one man solely for commercial work.

6. Simplification of refrigerator equipment is important, including the reduction of piping joints. Accessibility for inspection, repair and oiling will tend to reduce the number and cost of service calls.

7. Thorough factory construction is vital to satisfactory operation in service. Every machine should pass a rigid inspection, including a running test, before leaving the factory, even if it requires some sacrifice in quantity production. Quality should not be sacrificed for production.

8. Careless or hasty installation work results only in multiplying complaints. Proper installation will eliminate the majority of complaints, and a little more time spent on this work pays big dividends in reducing subsequent service cost. The right kind of installation work has been found to be the answer to 95 per cent of the complaints.

9. A first-class service organization is essential. Electric refrigeration is still on trial in the public mind, and the future of the business may depend upon the quality of service rendered during the next year or two. This does not necessarily mean free service, but good service, even if charged for after a stated period.

10. Guarantee periods, including free service, range from three to fifteen months. There is a tendency on the part of manufacturers' branches to shorten the free service period to three or six months, whereas the guarantee on defective parts runs for a year. Central-station companies are generally extending the free service for longer than a year, and where long term payments are offered service is usually extended to cover the period of the payments.

11. Service costs are too high, in many cases running from \$12 to \$15 per unit per year. This has been caused by a combination of circumstances—inexperience in making installations, inexperienced service men, poor factory inspection. Service cost should not exceed \$5 per unit per year, and \$2.50 to \$3 is attainable. The cost per unit

will decrease as saturation increases. Some distributors are handling service calls with one service man for every 1,000 domestic units installed. Central-station companies are finding that one service man can take care of the service work on 300 to 500 units. A compact or a scattered territory is a determining factor.

12. Training for service and installation men has generally been inadequate. One or two weeks is too little. Two weeks or a month's training with two or three months' work as helper is required to make a first-class installation or service man, provided he has an aptitude for the work. Manufacturers' training schools conducted at the factory are much more effective than training courses conducted at the local utility.

13. Many service calls are unnecessary and often result from failure of salesman or installation man to explain the operation of the unit to the customer. Over-selling by salesmen with respect to time required to freeze ice or method of making frozen desserts results in disappointed users who expect impossible performance. Proper selling in the first place and tactful servicing of such complaints cannot be urged too strongly. In the majority of cases service calls drop off sharply after the first month's use when the customer has become familiar with the refrigerator.

14. Periodic inspection every month or six weeks after a unit is installed is made by a number of dealers. This is a commendable practice, particularly at this time. However, if continued, it will impose a heavy burden upon service departments. Quarterly or semi-annual inspections should be sufficient, and some companies are considering the possibility of offering users a flat charge per year for maintenance after expiration of free service period, if they can determine a fair figure for this work.

15. Accurate data on number of service calls and costs are woefully lacking. Power companies and also dealers should set up some method of keeping service records in order to guide them in service practice and with a view to offering customers an inspection and maintenance service at a nominal charge.

16. Central-station companies and dealers who are setting up systematic sales and service organizations are getting the best results. Hit-or-miss methods result in chaos, disappointment in sales volume, dissatisfied and disgruntled customers, and high sales and service costs. Selling electric refrigeration is a highly specialized business and should be conducted by a special department further subdivided as to domestic and commercial sales. Use of special refrigeration salesmen by the central-station company is to be preferred to using the general sales forces, which tends to detract from other commercial activities. Continuous selling in so far as the seasonal nature of the business will permit is most desirable in order to retain an efficient year round selling organization and flatten out the sales curve. Campaigns have proved effective in stimulating sales, but tend to put too heavy a load on the installation department, and some companies have found that campaigns have caused them to undershoot their total sales quotas for the year.

17. High-type specialized salesmen are required, and men of some maturity are better than youthful salesmen. Compensation should be fair and liberal, always with the knowledge that low salaries or inadequate commissions beget poor salesmanship. Electric refrigerator selling is a man's job and requires a lot of intelligence and stamina. Salesmen expecting to clean up a lot of easy money would better stay out of the game. One to four weeks' training of salesmen is desirable, and it takes from one to three months for a new man to hit his stride.

18. Much of the electric refrigerator business to date has been on a cash basis, but the past summer has seen a wide adoption of time payment plans. Terms extending over 24 and even 36 months have been offered, but too liberal terms may have a bad reaction later in view of price reduction and new models. Twelve months would be more desirable; however, 18 to 24 months fits in better with the family budget.

19. Principal sales resistances encountered in order of their frequency were first cost, cost of final development and expectation of further price reductions. Some utility companies are awaiting stabilization of prices and conviction that present design is fundamentally correct. Electric refrigerator manufacturers should consider

these elements and their effect upon the market.

20. Income limitations of prospects do not entirely control the market. It is an important consideration now when the very top of the cream is being skimmed, but consensus of opinion is that at least 20 to 30 per cent of domestic customers may be considered as legitimate prospects. The wealthier classes have not proved as good prospects as people of excellent incomes. This has been surprising and calls for a different kind of selling.

21. Trial installations to stimulate sales are anathema to many agencies, which maintain that this is weak selling. Experience has shown that when this is done cautiously only 6 per cent of the trial units had to be removed. Where due consideration is given to customers' responsibility and conscientiousness, the trial period is a valuable sales argument but cannot be offered indiscriminately.

22. Price cutting is a two-edged sword and once started in a locality has a cumulative and increasingly bad effect upon all dealers. Co-operative associations of refrigerator dealers have helped this situation in some cities. There is plenty of business for all, and they would do well to adopt a standard code of ethics and practice. Accepting old boxes as trade-ins is practicable only in communities where they can be sold to the poorer classes that do not now use ice. This can be used as a means of extending the ice manufacturers' business. Excessive allowance on old boxes to close sales is a pernicious form of price cutting and detrimental to the electric refrigerator business.

23. Distributors and dealers claim to have made little or no profit this year. There is a wide demand for better discounts, and 40 per cent off list is thought to be about right where machines are purchased, stocked, handled, sold and serviced by the retail outlet. Manufacturers rightfully point out that electric refrigerators are not "shelf merchandise" and dealers can expect to make real money only through sales volume. It was most noticeable during the course of the investigation that those dealers that were the most aggressive and that were making the most intelligent use of the manufacturers' sales assistance were making the most sales and had the least complaint to make on discounts.

24. C.O.D. shipments of units and repair parts rankle many responsible dealers in addition to working a financial hardship at times. Selling electric refrigerators requires considerable capital, and manufacturers should endeavor to appoint dealers for whom these terms would not be difficult or whom the manufacturer would be willing to carry for a period of 30 days at least. Closer co-operation between the dealer and manufacturer's branch in the use of sales assistance would go a long way toward eradicating discussion of this item.

25. Better shipments of units by the manufacturers and more prompt attention to shipment of repairs and calls for service assistance are wanted by dealers. This situation, however, already shows marked improvement all along the line.

26. Retail dealers should give more attention to the location of their stores as well as the appearance of windows and sales floors. Side streets and untidy shops do not accord with the sale of a product the major selling points of which are cleanliness and the hygienic preservation of foodstuff.

27. Distributor-dealers, central-station companies, special or exclusive dealers and electrical contractors have proved the best outlets for the electric refrigerator. It is not yet ready for distribution through already established channels such as department, furniture or hardware dealers. Resale plans being formulated by some manufacturers may be attractive to this class of merchants.

28. Naming prices f.o.b. factory has caused bad reactions and hampered sales, but it seems impossible to suggest a better method that would be equitable to everyone concerned. In this connection it is believed by dealers that national advertising has sold the idea of electric refrigeration better than local newspaper advertising, which can be accounted for by many dealers' failure to accept the manufacturer's plan for local advertising.

29. Remote installations are preferred by most dealers, who state that national advertising should not feature self-contained cabinets so heavily. There are limitations to remote installations, and the self-contained unit has a big field in apartment houses, for renters and people who insist on being able to move their refrigerator about. There is also a demand for a small, low-priced, self-contained unit.

30. The ice cream cabinet business has gravitated toward the dairy and ice cream wholesalers. Where they are not providing this service to their customers, it presents a profitable market.

31. Electric rates for refrigeration service have not influenced sales, but dealers should refrain from comparing rates effective in different localities. The need for uniform rate structures designed to encourage belief that the rate per kilowatt-hour age use is again apparent. It is generally should not exceed 6 or 6½ cents and that 5 cents is about right.

32. The public generally has accepted electric refrigeration, but wants to be shown, and sales next year will be governed pretty much by the capability and capacity of the sales organizations that can be made effective.

Index of Articles on Electric Refrigeration Published in The Advertiser's Weekly

Reprints Offered on Request

The following articles on the advertising and merchandising of electric refrigerators have appeared in *The Advertising Weekly* during the past years. Reprints may be obtained by addressing the paper at 32 North Ave., New Rochelle, N. Y.

Electric Refrigeration Growth (The sale of 52,500 units last year regarded as only the beginning of a good start).....	Jan. 9; p. 15
A Review of the Electric Refrigeration Field (Astonishing record of sales growth in brief period—Newspaper advertising recommended as most successful advertising method).....	Mar. 27; p. 8
Electric Refrigeration Outlook (Developments much like those of the automobile industry—Advertising in the general interest).....	May 1; p. 9
The Future Development of Electric Refrigeration (Zone development the logical method—Local conditions which affect sales—List of advertisers and advertising prospects).....	May 22; p. 3
An Ice Man's Challenge (Not disposed to accept mechanical refrigeration without a fight—Interesting developments pending).....	May 29; p. 7
A Last Stand or a Great Awakening? (Plans of the ice men to combat the inroads of electrical refrigeration—Summary of a situation which has great possibilities for increased advertising).....	June 5; p. 5
How the Case of Advertising is Presented (An interesting example—Facts offered to a meeting of ice dealers—The facts that were not presented).....	June 12; p. 5
A New Trade Development (Organization and plans of the Electrical and	
Gas Refrigeration Trade Extension Bureau— A sound development scheme.....	June 19; p. 10
An Answer to Mechanical Refrigeration Critics (“Purecold,” a revolutionary development— Electrical, gas and non-mechanical units to be offered—Far-reaching schemes for market dominance).....	July 3; p. 10
The Clash of Two Great Industries (Further evidence that the ice men are alive to the challenge of mechanical refrigeration— Opinions of the leaders—Contest growing more bitter).....	July 10; p. 5
The Advertising of Electrical Refrigeration (Leading firms show intelligence in newspaper effort, uncertainty in magazine use—Details of 13 month campaign—New York market intelligently attacked).....	Aug. 7; p. 5
Electric Trades Unite to Advertise (Comprehensive plans for a five-year campaign that will spend large sums).....	Sept. 18; p. 11
What's American Ice Co.'s Surplus? (Plausible reports of impending developments in mechanical refrigeration).....	Oct. 2; p. 14
Coal and Ice Preparing “Come Back” (Consumer advertising and improved methods of consumption spell their renaissance).....	Oct. 2; p. 10
Current Refrigeration High Lights (Electrolux Servel unit introduced—News and Rumors of Interest—The “inside” of the recent fatality).....	Oct. 30; p. 17

(This advertisement running in newspapers in factory branch cities.)

Can you add to these Questions?

YOU probably have some special question you would like to ask about electric refrigeration. Is it answered below? If not, write or phone “Information” at our local office, or call in person and let us answer it frankly without any obligation to you.

What are the benefits?

Keeps foods fresh three and four times longer than other methods—with great economy, convenience and enjoyment. Constant low temperature prevents the development of bacteria which might come in with food. Baby's milk is protected. This last is an advantage over ice which is not cold enough to give temperatures of 45 degrees.

Can it be used in my present refrigerator?

Yes. Ice Mould units come in various sizes; any size of ice box can be fitted. No muss or fuss, takes about two hours.

Is it dependable?

It is guaranteed to be absolutely reliable. Ice Mould was severely tested four years in homes and laboratories before it was offered generally to the public. Guarantee of satisfactory operation is the best evidence of its reliability. . . . The Lamson Company has been established 50 years.

Is it safe?

There is nothing about Ice Mould that could make it unsafe. The cooling liquid is perfectly harmless. The nickel-copper tank is absolutely sanitary. You can leave home knowing the refrigerator will work safely while you are away for a week—or a month.

Does it cost more than ice?

You could not possibly produce the same refrigeration with ice for the low price at which the Ice Mould provides it. The best that ice can ever give cannot help but be inferior to Ice Mould's every-day, all-the-time performance. How much a day does food-spoilage cost you? What worry and bother? The cost of Ice Mould refrigeration is so low it will surprise you—as our office will gladly explain.

Why has the Lamson Company gone into this field?

Lamson has had fifty years of precise manufacturing and engineering experience. It has great financial resources. It is a Service business, with satisfied customers all over the world. It is an international organization, with branches in

all principal cities. These are the very things you want in the manufacturer of your electric refrigerator.

What does Lamson make beside the Ice Mould?

The pneumatic cash tubes and carriers that save your time, handle your money and packages quickly and accurately, whenever you shop in stores. The great tubes and conveyors on which the Government depends for the handling of the U.S. Mails. The conveyors and tubes which businesses great and small use to speed production and reduce costs, all over the world. These Lamson products are famous everywhere for reliability and low operating costs. Lamson is a precision manufacturer, and making ice machines is precision manufacturing.

How much attention does the Ice Mould require?

No attention. You oil it every six months. Otherwise it needs practically no care during its long lifetime of automatic, silent service.

How does it work?

With the Ice Mould, there is nothing to “understand.” It is automatic—a triumph of simplicity. To make ice cubes you simply fill the trays with water. To make frozen desserts you do the same thing with the mixture you prefer. To keep foods perfectly, you put them in your refrigerator.

Is the first cost high—and must I pay cash?

The price of the Ice Mould is not high—and it eventually pays for itself. You can buy the Ice Mould as you would pay for ice—by the week or month through the maker's own organization. You know who is responsible to see that you get just what you paid for, in results and satisfaction.



ICE MAID
DEPENDABLE
Electric Refrigeration
The LAMSON COMPANY, General Office, SYRACUSE, NEW YORK

Write for our interesting distributor or dealer proposal

Fourth Lesson in Service Course

Discussion of the Laws of Heat and Their Relation to Electric Refrigeration Continued

Lesson IV

Evaporation and Condensation

Copyright, 1926, by Nizer Corporation

Refrigeration—A Heat Problem

Refrigeration is the cooling of a body by the removal from it of a part of its heat. Since heat cannot be created or destroyed, all the heat removed from one body must show up, in some form or other, in another body. Our problem is therefore one having to do with the handling of heat quantities.

Latent Heat—Its Importance in Refrigeration

In the lesson previous to this we learned something of the quantities of heat that are either released from or absorbed by a substance when it is made to change from one state to another. In addition we learned that the heat quantities transferred are especially large in the case in which the substance is made to change from the liquid state to the vapor state and that it is this so-called latent heat that is responsible for nearly all the refrigeration in our present day refrigerating systems. Even in common ice refrigeration it is the latent heat of fusion of the ice that produces the cooling, for the heat that is removed from the contents of box, in the process of cooling them, is exactly the same heat that the ice absorbs as it melts and turns into water. The heat remains in the water and is carried away with it.

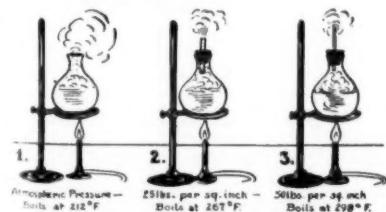
Refrigeration—Caused by Evaporation

Although we may never have thought of evaporation in connection with refrigeration, nature offers several examples of it. The period of coolness that usually follows a summer rain is the result of the evaporation of part of the water that has fallen, the heat required to cause the evaporation being drawn from the earth and atmosphere, which are of course cooled as a result. An even more common example of refrigeration by means of evaporation is to be found in the cooling of our bodies by perspiration. Later on, the subject of evaporation as it takes place within the refrigerating machine will be studied. For the time being, however, let us simply accept the fact that every time a certain amount of liquid is made to evaporate, a certain definite amount of refrigeration takes place. Since this is the case, this lesson will concern itself with the conditions that have to do with controlling and producing evaporation, for if we cannot produce evaporation we cannot produce refrigeration.

To most of us, the common example of evaporation is undoubtedly to be found in the boiling of water. Our experience in this connection has taught us that certain conditions must be established before the water can be expected to boil and first among these is that the temperature of the water must be raised high enough. Those of us who have measured it know that pure water, in an open vessel, will not boil until it has reached a temperature of 212° F. If our experiment with the boiling water had been carried further, we should have learned that not only will the water not boil until it has reached 212°, but once it has started to boil, it will not get any warmer than 212°. If an attempt is made to increase the temperature of the water above its boiling point by adding heat to it more rapidly, the only result achieved is that the boiling takes place more rapidly and so continues to carry the heat away as quickly as it is added. Once the conditions become established, boiling or evaporation is a process that takes place at constant temperature.

The Effect of High Pressure on Evaporation

In our experiment with water we caused it to boil and measured its temperature. Finding it to be 212°, we at once accepted this figure as the boiling temperature of water. However, 212° is only one of the boiling points of water because the boiling temperature of water, or any other liquid, is dependent upon the pressure in the vessel in which the boiling is made to take place. By way of demonstrating this, let us take three vessels of water as illustrated in the following sketch.



Let the first vessel be open to the atmosphere so that the pressure within it is zero. Let the second vessel be sealed in such a way that there is always a pressure of 25 pounds per square inch in it and let the third vessel have within it a constant pressure of 50 pounds per square inch. Let us now heat these vessels and note the effect of the different pressures on the boiling temperature.

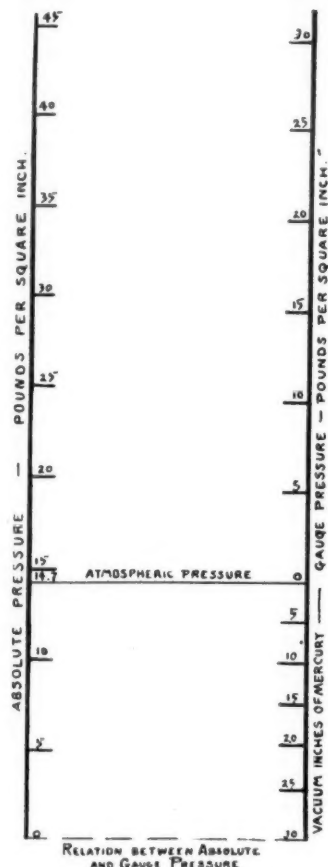
Number one will boil, as we should expect, at 212° F. As a result of the greater pressure in it, number two, however, will show no sign of boiling at 212° and will not boil until a temperature of almost 267° has been reached, that is, 55 degrees hotter than in the case of number one. Number three, being subjected to 50 lbs. per square inch, will not boil until about 298° F., or 86° hotter than number one. This shows the effect of pressure on the boiling temperature of a liquid and tells us that the greater the pressure to which the liquid is subjected the higher is the temperature required to make it boil.

Low Pressures and Their Measurement

Having investigated the effect on the evaporating temperature of pressures greater than that of the atmosphere, let us now turn our attention to consideration of the effect of lower pressures. Before doing so, however, it is necessary that we understand clearly what is meant by pressures lower than atmospheric.

Although we may not often think of it, every object exposed to the air is subjected to a pressure called the atmospheric pressure. This pressure is due to the weight of the large volume of air or atmosphere above the surface of the earth and, under ordinary conditions, amounts to 14.7 pounds per square inch. Because this pressure is so constant we rarely consider its existence and usually measure all pressures by pressure gauges which show only pressures above that of the atmosphere. When reading zero, these gauges indicate atmospheric pressure which, it must be remembered, is actually 14.7 pounds per square inch.

There is a pressure scale, used by scientists and engineers, called the absolute pressure scale. Zero on this scale means no pressure at all or, in other words, a perfect vacuum. Atmospheric

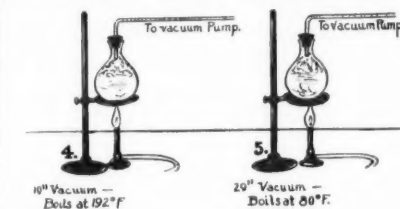


pressure is represented by its true value of 14.7 pounds per square inch on the absolute scale. The adjoining sketch shows the relationship existing between the two pressure scales.

On the right hand or gauge scale it will be noticed that all pressures below atmospheric are called vacuums. This gives us a basis for the definition of vacuum. A partial vacuum is a pressure lower than atmospheric pressure. A perfect vacuum is an entire absence of pressure. Accurate measurement of vacuum is made by use of a manometer, which is a long glass tube filled with mercury. Instead of measuring in pounds per square inch, it measures the vacuum in inches of mercury. Measured on this instrument a perfect vacuum is represented by 30 inches of mercury, a vacuum half perfect by 15 inches, and so on. Thirty inches of mercury are roughly equivalent to 15 pounds on the pressure scale so that a 2-inch vacuum means a pressure of 1 pound less than the prevailing atmospheric pressure.

The Effect of Vacuum on Evaporation

We have seen that when water is subjected to a high pressure it is necessary to raise its temperature much higher to produce boiling or evaporation than is the case at atmospheric pressure. Let us now investigate the effect of a reduced pressure on the evaporating temperature. To do this we shall use two vessels, similar to those used in the first experiment but equipped in such a manner that within the first there is



maintained a 10-inch vacuum and in the second a 20-inch vacuum. Let us now apply heat to these vessels as we did in the first case and observe the temperature at which the water within them starts to boil. In the case of the vessel number four, we shall find boiling taking place at 192° F., while in vessel number five we shall find the water boiling at the remarkably low temperature of 80°.

Setting out the results of our experiment in tabular form, we have the following:

EFFECT OF PRESSURE ON BOILING TEMPERATURE OF WATER

Gauge Pressure Pounds Per Sq. In.	Absolute Pressure Pounds Per Sq. In.	Boiling Temp. Degrees F.
30	44.7	267°
25	39.7	258°
0	14.7	212°
10" vac.	9.8	192°
20" vac.	0.5	80°

The table shows us that the pressure to which the water is subjected has just as much to do with its boiling as does the temperature. The same is true of any liquid, in fact.

A liquid may be made to evaporate at any temperature above its freezing point if only the pressure to which it is subjected be made low enough.

Condensation

Evaporation is the changing from the liquid state to the vapor state. Condensation is the change in the reverse direction; that is, from the vapor to the liquid. Pressure and temperature are the controlling factors in condensation just as we found them to be in the case of evaporation, the difference being that opposite conditions from those which tend to produce evaporation bring about condensation. Condensation is produced either by lowering the temperature or by increasing the pressure. Stated in a slightly different manner, for every temperature to which a liquid may be sub-

jected there corresponds a certain pressure known as the vapor pressure for that temperature. Any pressure higher than the vapor pressure will cause condensation of the vapor. Any pressure lower than the vapor pressure will cause evaporation of the liquid. Similarly for every pressure to which a liquid may be subjected there is a corresponding temperature above which evaporation is produced and below which condensation results.

The Vapor Pressure Curve

Let us now turn our attention to the study of the conditions necessary to produce evaporation and condensation of sulphur dioxide. Below is shown a chart known as the vapor pressure curve for Sulphur Dioxide. The curve on this chart enables us to determine the vapor pressure of SO₂ for any given temperature within its limits.

When held in the proper manner for use the temperature scale on the chart appears along the lower border and the pressure scale on the left. To find the vapor pressure corresponding to any temperature, simply run a line vertically from the temperature in question until it intersects the curve. Directly opposite

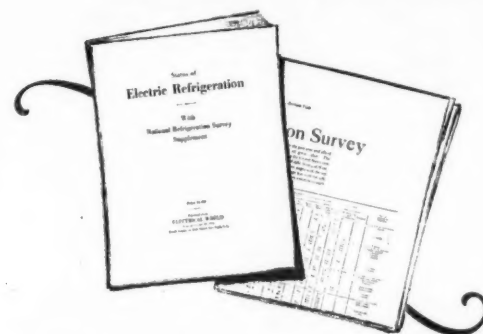
that point, on the left hand scale, will appear the pressure. For example, the vapor pressure at 60° is 26 pounds per square inch and at 70° is 34½ pounds. Notice also that the temperature corresponding to atmospheric pressure is 14°. This, then, is the boiling point of Sulphur Dioxide at atmospheric pressure.

The vapor pressure curve has uses other than the one already referred to, but these will be taken up further on in the course. In view of its importance the student should spend sufficient time in the study of the chart to be entirely familiar with it and its use.

Critical Temperature

Earlier in the lesson it was stated that a gas may be condensed either by a reduction of its temperature or by a sufficient increase in its pressure. There is, however, for every gas, a certain temperature above which this does not hold true. This temperature is known as the critical temperature. At any temperature below its critical temperature a gas may be condensed by sufficient increase of pressure. Above this point no amount of pressure will serve to turn it into a liquid.

Now Available!



A
National Survey
of the
Entire
Electric
Refrigeration
Situation

The Latest Information on Electric Refrigeration covering

- types of refrigerators most popular
- possibilities for reduced prices, design changes, etc.
- guarantees and servicing
- sales position of the electric light and power companies
- time payment policies
- power rates
- selecting, training and paying of salesmen
- ice company competition
- use of trial installations
- advertising—location of store
- price situation
- analysing local market
- inspection and repairs

—and information on many other problems confronting the manufacturer, central station, distributor and dealer is given in the Electrical Refrigeration Survey.

Order now—One Dollar per copy
(Please make payment with order)

Electrical World

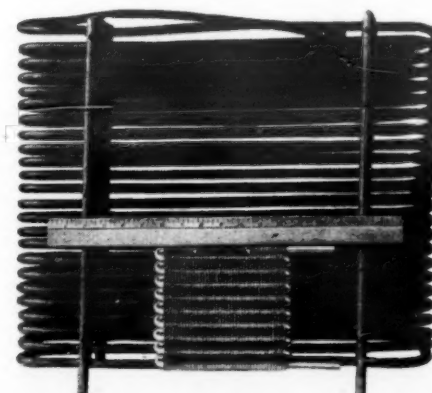
A McGraw-Hill Publication
Tenth Avenue at 36th Street, New York, N. Y.

FLINTLOCK CONDENSERS AIR COOLED

The problem of handling air cooled condensers in cramped space, or where it is difficult or impossible to secure adequate air circulation over the coils has been solved in a most satisfactory manner by Flintlock.

These compact, sturdy, efficient air cooled condensers occupy less than a sixth of the space necessary with the coil type device. Head pressures have been reduced to an absolute minimum called for by the temperature of the surrounding air. The motor pulley fan directs a steady flow of air over the entire surface of the condenser. Machines which have been complete failures in warm climates may be brought up to their required efficiency by substituting the Flintlock Condensers.

We work with your Engineers to secure the utmost in results. Don't handicap a good machine with an inefficient condenser.



The cost? No more than your present type condenser and there is no comparison in results. Flintlock condensers have an absolutely scientific distribution of metal both in the outer and inner fins to squeeze out the last B. T. U. in the gas in the shortest possible time and with the least mechanical effort.

Modernize YOUR UNIT with a Flintlock.

FLINTLOCK CORPORATION

Buhl Bldg.

Detroit, Mich.

F. B. RILEY, Direct Representative

320 BEAUBIEN STREET

DETROIT, MICH.

How Kelvinator Helps its Salesmen Visualize the Sales Appeal to Prospects

Experience Shows that Sales Have Been Built Up
by Use of Prepared Presentation

By James W. Beckman

It is an axiomatic principle of salesmanship that if a proposition is properly presented to a logical prospect, the sale is largely made. In other words, every article has a definite purpose or sales appeal, and this presented clearly and forcefully to the person who needs it and can afford it, means that the desire necessary to the consummation of the sale will be created.

The great difficulty has been to visualize the sales appeal for the prospect. Kelvinator Corporation has found a solution of the problem in a sales portfolio in which the selling points are presented in graphic style in their logical order. The sales presentation is as thoroughly prepared as a lawyer's appeal to the jury.

"No matter how carefully trained salesmen are," says G. M. Dwelley, sales manager, "they will sometimes forget an essential fact or omit a carefully thought out sales point in presenting their story. Many times a chart or photograph is lost or spoiled and is left out of the story entirely. Even when things go right and the story is presented properly it is sometimes necessary for the person interviewed to repeat the story—to 'self' others—and again some essential part may be omitted.

"This was the problem with which we were confronted. We had tried every way to overcome it. Finally we found its solu-

tion in the adaptation of the Pyramid Sales Portfolio to our requirements.

"Obviously it is impossible to train every man to sell your way. However, by using this portfolio we found it possible to arrange the story for our salesmen and tell the facts as we wanted them told. This can be done whether the sales force is two men or two thousand. Whether the product is sold direct to the prospect or through retail stores, whether by special factory representatives or hardware clerks, you can get them to tell your story in this manner exactly as you would tell it. All that is necessary is to build up your story, using pictures, charts, samples and copy in a comprehensive manner, under your personal supervision.

"At all times the salesman is in back, or at the side of the portfolio, facing his audience. He holds their attention because of the advantage he has in watching their expressions and in being able to anticipate their questions.

"Our salesmen welcome the use of the portfolio because of its attraction value and its ease of operation. It is compact, folds up easily and can be carried under the arm. Our salesmen have no objection to carrying it with them all the time—and that is the important thing in any prepared sales presentation."

SUGGESTS NATIONAL TESTING LABORATORIES

Would Be Useful for Testing Electric Refrigerators and Oil Burners

The following editorial, published in the November 20th issue of *Electrical World*, sanctions a proposal that a national laboratory be established to test and approve electrical appliances and for "the development of new lines of electrical devices."

"In the editorial columns of the *Electrical World* the suggestion was recently offered that a national laboratory be established for the purpose of testing and approving electrical appliances. Such a laboratory would indeed be a powerful influence toward the development of electrical appliances along lines which would insure the greatest satisfaction to the user. Its analyses would undoubtedly keep out of the central-station-company merchandise departments appliances with cheap cords, faulty connections and other features of improper construction. It would also furnish to the central-station companies reputable and reliable figures as to the energy consumption of appliances under average conditions of use and the basic data with which to demonstrate to the public the over-all economy of electrical conveniences.

"Another function which might be exceedingly useful would be the development of new lines of electrical devices. Those who are familiar with the activities of the refrigeration committee of the Commercial Section of the National Electric Light Association over a number of years past will quickly recognize the tremendous usefulness such laboratory would have possessed had it been available during the period of the most rapid development of the domestic electric refrigerator. A device that is perhaps in somewhat the same stage today that the electric refrigerator was in a few years ago is the motor-driven oil burner for house-heating purposes. Literally hundreds of these are being placed on the market, and the central-station sales manager who considers taking on the sale of such a line of apparatus is immediately confronted with dozens of claims for superior construction, economy of installation and operation.

"Here is an opportunity for the newly awakened consciousness of the commercial men of the N. E. L. A. to put into tangible form a co-operative undertaking which would be of distinct assistance to the industry in molding its development along the proper lines."

Convention Dates

American Institute of Electrical Engineers, New York City, Feb. 7-11. Secretary, F. L. Hutchinson, 29 W. 39th St., New York City.

American Society of Agricultural Engineers, Farm Power and Machinery Division, Chicago, Feb. 18-19. Secretary, Raymond Olney, St. Joseph, Mich.

Electrical Supply Jobbers' Association, Pacific Division, Del Monte, Calif., Jan. 27-29. Secretary, Franklin Overbaugh, 411 S. Clinton, St. Chicago, Ill.

National Electrical Credit Association, Boston, Jan. 18. Secretary, Frederick P. Vose, 1008 Marquette Building, Chicago, Illinois.

National Electrical Manufacturers Association, New York City, Jan. 17-21. Secretary, Frederick Nicholas, 30 E. 42nd St., New York City.

Northwestern Association of Electrical Inspectors, Portland, Ore., Jan. 18-19. Secretary, F. D. Weber, Box 745, Portland, Oregon.

Western Association of Electrical Inspectors, Kansas City, Mo., Jan. 25-27. Secretary, W. S. Boyd, 175 W. Jackson Blvd., Chicago, Ill.

Subscription Coupon

Note: This offer expires December 31, 1926.

BUSINESS NEWS PUBLISHING CO.
409 EAST JEFFERSON AVENUE
DETROIT, MICH.

Gentlemen:

Please enroll me as a subscriber to **ELECTRIC REFRIGERATION NEWS**, the Business Newspaper of the Electric Refrigeration Industry, at the special introductory rate now being offered.

☐ Three years, one dollar

☐ One year, fifty cents

I am enclosing payment in the form of

☐ Check

☐ P. O. Order

☐ Cash

Name _____

Company _____

Street Address _____

City and State _____

☐ Note: If it is inconvenient for you to enclose payment with this order, check this square and invoice will be mailed. Do it now, while you have the blank before you. It will save the time and trouble of writing a letter, and you will be sure to get the next issue.

Electric Refrigeration Featured in Apartment Advertisements

In Detroit, an apartment without electric refrigeration can scarcely be called "modern." The classified advertisements shown below, clipped from one page of the *Detroit News*, Sunday, November 28th, show how builders and real estate dealers have seized upon this added attraction in offering new apartments to prospective tenants.

While many of the advertisements use the term "electric refrigeration" some refer

to "iceless" and others to "mechanical" refrigeration. No doubt part of the latter are central ammonia plants. The make is mentioned in some cases, indicating the advantage of a well-advertised name.

It is interesting to note that a few of the older apartments are now giving "free" ice in order to meet the competition of the electrically-equipped buildings.

TO RENT-APARTMENTS
111 South Drexel, Richard Apt. Bldg., 10th floor, with all the latest bath, kitchen, and electric refrigerator. Rent \$10.00. Call 1000.
BOSTON BLVD. 2807 (NEW). 3 bedrooms, 2 baths, electric refrigerator, gas heat, central air conditioning. Rent \$12.00. Call 1000.
BARTLETT, NEAR WOODWARD (NEW). 3 bedrooms, 2 baths, electric refrigerator, gas heat, central air conditioning. Rent \$12.00. Call 1000.

CHICAGO BLVD. 5121 (NEW) \$70.
3 bedrooms, 2 baths, electric refrigerator, gas heat, central air conditioning. Rent \$70.00. Call 1000.

17400 E. 13th St. (NEW) \$70.
3 bedrooms, 2 baths, electric refrigerator, gas heat, central air conditioning. Rent \$70.00. Call 1000.

17400 E. 13th St. (NEW) \$70.
3 bedrooms, 2 baths, electric refrigerator, gas heat, central air conditioning. Rent \$70.00. Call 1000.

Gaining

ELECTRIC REFRIGERATION NEWS was introduced at the meeting of the Electric Refrigeration Council held at Waldenwoods, Michigan, September 11, 1926. The second issue appeared October 6. Another three and one-half weeks passed by before the third issue came off the press, October 30. The period was cut down to three weeks when the fourth issue came out, November 20. Only two and one-half weeks has elapsed and the fifth number is on the way, dated December 8.

During this time the company has been incorporated, offices and equipment secured, a staff employed, books and records set up, mailing lists checked, a large volume of correspondence has been handled, and, in brief, all of the problems of organizing a business have been encountered.

Naturally, we still have some things to do before the service will be running smoothly. We feel highly pleased with the progress, however, and especially gratified with the fine response from the industry and the cooperation accorded by organizations and by other publications.

The next is scheduled to appear in two weeks, December 22. We feel confident, therefore, that the new year will find us organized to maintain the announced schedule of an issue "every two weeks."

How to Make a Two-dollar Bill Bring Good Luck

Many people dislike to carry a two-dollar bill. Some think it is unlucky. It is, if you make a mistake and hand it out thinking it is only one dollar.

Instead of taking a chance of getting only half value, you can make it worth many times two dollars by investing it in four annual subscriptions to **ELECTRIC REFRIGERATION NEWS** for four members of your sales and service organization.

Use the coupon below.

Australians Ask U. S. Electrical Manufacturers to Show Products

An invitation for American electrical manufacturers to participate in the All Electrical Exhibition given by the Electrical Federation (Victoria) at Melbourne, Australia, September 10 to October 1, 1927, has been received by the Society for Electrical Development, New York.

The exhibition will be held in the Melbourne Exhibition Building. This building has approximately 100,000 feet of floor space available for exhibits. The Australian committee for the exhibition expects an attendance of more than 100,000.

The date was fixed so far ahead to give exhibitors ample opportunity to prepare and enter exhibits, and also because the Royal Agricultural Show, which annually draws many thousands of visitors to the city, is to be held at that time.

Comments of Readers

"I want to compliment you on having the foresight to start a publication such as the *Electric Refrigeration News*. It has an enormous field in which to do good work and I know it will have a bright future."—J. Blair Easter, sales manager, Keystone Refrigerating Corp., Pittsburgh, Pa.

"I see you have become the editor of an electrical paper. You have my felicitations and good wishes for the best of success."—A. L. Canfield, manager commercial department, Belding-Hall Co., New York, N. Y.

"Would it not be possible for you to make this a weekly publication instead of semi-monthly? Here's hoping that the time is not far distant when it will become a daily."—L. H. Holman, Kelvinator Boston Inc., Cambridge, Mass.

"We are keenly interested in your paper."—M. H. Pendergast, Berg Mfg. Co., Gardner, Mass.

"I am very much interested in your paper and believe it is a step in the right direction."—F. S. Mayberry, Orange, Mass.

"It is very interesting."—H. A. Schlaudecker, Erie, Pa.

"We are glad to learn that there is now a publication that can give us the expression of all those so deeply interested in this new industry which is developing rapidly."—Robert Payne, Northwestern Electric Equipment Co., St. Paul, Minn.

"You may be sure that your paper will be read with a great deal of interest."—C. L. Funnell, Graybar Electric Co., New York.

"Your paper will fill a long felt want. Every line is interesting. The suggestions are surely inspiring."—C. G. Ender, Harrisburg, Pa.

"You are greatly to be complimented on *Electric Refrigeration News*, which is indeed a live, interesting and 'newsy' sheet."—Charles E. Townsend, Advertiser's Weekly, New Rochelle, N. Y.

"On November 8th, I mailed you seven subscriptions for the 'News' and beg to advise you that all of them received their copies today and needless to say that they found them full of real 'News'."—John C. Dobyne, Individual Cold Storage Unit Co., St. Louis, Mo.

"Congratulations on your most excellent progress so far."—Earl Linc, advertising manager, Leonard Refrigerator Co., Grand Rapids, Mich.

SUBSCRIBE

Subscribe to *Electric Refrigeration News* now. The special introductory offer of one year for 50 cents, three years for one dollar, expires December 31, 1926. Take advantage of the low rate by enrolling today.

Wants to Pay His Subscription

A. W. Berresford, executive vice-president of the Nizer Corporation, Detroit, writes as follows: "May I compliment you on the October 30th issue of the *News*, and at the same time call your attention to the fact that I am a subscriber and have not yet received a bill? I am rather proud of the fact of having been an early one and would like to close the account."

For the information of Mr. Berresford, and others who have written similar reminders recently, we are now sending out subscription invoices. We have made an effort to keep an accurate record of all subscriptions received during the period of organization. If any subscriber fails to receive an invoice in due time, we will be pleased to have our attention called to the oversight.

New Literature

The Whitehead Refrigeration Co., Detroit, has issued a descriptive consumer folder and an eight-page leaflet entitled, "Better Refrigeration for the Home."

The Domestic Electric Refrigerator Corp., 2011 Grand Central Terminal, New York, announces a new model—a self-contained unit, selling for \$150. This model is described in a two-color broadside.

The Baldor Electric Company, in describing their new refrigerator motor, has issued for this purpose a treatise of the "Single Phase Refrigerator Motor." This 16-page manuscript discusses single phase motors in general and then turns to a description of the Baldor motor. "Novoid News," small folder for the consumers of cork, containing current comment about the insulation industry. Published by the Cork Import Corporation, 349 West Fortieth Street, New York.

Copeland Literature

Copeland Products, Inc., Detroit, Mich., has recently issued the following direct advertising material: "Proof," a 24-page booklet in two colors reproducing various good will and testimonial letters. "What Every Housewife Should Know" (two-color leaflet). "An Amazing New Model" (folder). "Why the Modern Woman Likes Copeland Refrigeration" (illustrated broadside). "For the Modern Home" (enclosure). "A Great Promise Fulfilled" (broadside).

CLASSIFIED COLUMN

EXPERIENCED SALES EXECUTIVE DESIRES CONNECTION

An electric refrigeration man, well known in the industry, now in an important position, desires to make a new connection. He has had large-scale sales experience and is well-grounded in matters pertaining to electric refrigeration. Owing to his present responsibility, any indication that he is available might reflect upon his present company, and this he desires to avoid. If interested, simply write "interview requested" on your card and mail to Box 6, *Electric Refrigeration News*.

EXECUTIVES WANTED

Old established manufacturing concern ready to organize *Electric Refrigeration Sales Division* to market product. Six years developing and two years on the market. Give complete history in first letter. Box 5, *Electric Refrigeration News*.

POSITION WANTED

Service man with wide selling and servicing ability experienced in household and small commercial refrigerating machines, capable of training sales and service men, desires position with responsible firm. Address inquiries to Box 4, *Care of Electric Refrigeration News*.

DISTRIBUTORS

Send us the names of your sales and service men and we will mail sample copies of *Electric Refrigeration News* to them. Many distributors have already done so in order that their employees may become better informed about the business. (The live ones will subscribe.)

Electric refrigeration is new and developing rapidly. Improvements are being made in equipment, new tools and accessories are being put on the market, selling helps and training courses are being offered, advancements in sales and service methods are constantly coming out.

Electric Refrigeration News has located many sources of highly valuable information which will be extremely helpful to your organization. The history and background of the business are being published, important data on equipment and companies is being made available. Facts and figures on the market are coming in. *Electric Refrigeration News* is devoted to this one industry. Every column will be interesting to the men and women in the business.

ELECTRIC REFRIGERATION NEWS
409 E. Jefferson Ave., Detroit

We Manufacture to Your Specifications Ice Cream Cabinets and Parts

Write for Interesting Information

MOTORS METAL MFG. CO., Detroit, Mich.

M. A. LASSEN, M. E.
CONSULTING ENGINEER
Member
Amer. Soc. Refrig. Engrs.

320 BEAUBIEN ST.
PHONE CADILLAC 0061
DETROIT, MICH.

ENGINEERING SERVICE—PATENTS AND INVENTIONS DEVELOPED, LABORATORY TESTS AND REPORTS—EXPERIMENTAL MACHINE WORK COMPLETED IN WELL EQUIPPED SHOP BY EXPERT MECHANICS. EXPERIENCED CONSULTATION SERVICE. YEARS OF EXPERIENCE WITH PRESENT SUCCESSFUL MACHINES.

Correspondence invited.

F. B. RILEY

Mem. A. S. R. E.

ANNOUNCES THE CONSUMMATION OF PLANS FOR BRINGING TOGETHER UNDER ONE SALES DIRECTION A BROAD RANGE OF STANDARDIZED APPLIANCES AND PRODUCTS FOR THE REFRIGERATING MACHINE INDUSTRY.

The products of these corporations will simplify your engineering problems and lower production costs.

Absolute Con-tac-tor Corp.
ELKHART, IND.
Automatic controls.

Major Engineering Corp.
CHICAGO, ILL.
Major metal.

Cope-Swift Company
DETROIT, MICH.
Motor pulley fans.

Manhattan Perforated Metal Co.
NEW YORK, N. Y.
Perforated sheet metal.

Fedders Manufacturing Co.
BUFFALO, N. Y.
Brine tanks.

Rome Manufacturing Company
ROME, N. Y.
Forged fittings and valves.

Flintlock Corporation
DETROIT, MICH.
Air cooled condensers.

Schlieman Companies
NEW YORK, N. Y.
Low temperature oils.

Ireland & Matthews Mfg. Co.
DETROIT, MICH.
Liquid receivers.

Success Manufacturing Company
GLOUCESTER, MASS.
Refrigerator cabinets.

STANDARD REFRIGERATING APPLIANCES

320 Beaubien Street
Detroit, Mich.



F. B. Riley—
Sales Counsel and
Direct Factory
Representative